CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, May 7, 1903.

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PERSONAL.

Messrs. Robert W. Hunt & Co., Engineers, have opened an office at 66 Broadway, New York.

Mr. O. Davidson has been appointed Division Engineer of the Iowa Central Ry., at Marshalltown, Ia.

Mr. J. A. Van Blarcom has been elected President of the Tennessee Central Ry., succeeding Mr. J. Baxter, resigned.

Mr. A. S. Baldwin has been appointed Engineer of Construction of the Illinois Central R. R., with office at Chicago.

Mr. David Sloan having resigned as Chief Engineer of Construction of the Illinois Central R. R., that office is abolished.

Mr. E. H. Shipman has been appointed Assistant Engineer of the Lehigh Valley R. R., with headquarters at Sayre, Pa.

Mr. Charles W. Sponsel, Mechanical Engineer, has opened an office in the Connecticut Mutual Building, Hartford, Conn.

Mr. W. M. Legg has been appointed General Manager of the Georgia, Florida & Alabama Ry., with headquarters at Bainbridge, Ga.

Mr. Henry S. Thompson has been appointed Superintendent of Buildings of New York city, in place of Mr. Perez M. Stewart.

Mr. Frank B. Gilbreth, General Contractor, of Boston, Mass., has opened a permanent branch office in the Park Row Bldg., New York.

Mr. R. H. Cobbs, Jr., has been appointed General Superintendent of the Mobile, Jackson & Kansas City Ry., with headquarters at Mobile, Ala.

Messrs. Remington & Sherman Co., engineers and manufacturers, have removed their New York salesrooms to 38 Park Place and 33 Barclay St.

Mr. O. J. Travis, Superintendent of Bridges of the Illinois Central R. R., has resigned to accept a similar position with the Colorado & Southern R. R.

Mr. Isaac I. Van Allen, Car Accountant of the Lehigh Valley R. R., at Buffalo, N. Y., has resigned to become Superintendent of Canal Docks for the Western Transit Co.

Mr. A. L. Grandy has been appointed Division Engineer of the Meadville Division of the Erie R. R., with headquarters at Meadville, Pa., succeeding Mr. J. M. Larned, resigned.

Mr. George T. Slade, heretofore General Superintendent of the Erie R. R., has been appointed to a similar position on the Great Northern Ry., with headquarters at St. Paul, Minn.

Mr. Frank W. Everett has been appointed Superintendent of the Western Division of the New York Central & Hudson River R. R., and Mr. F. R. Payne, Assistant Superintendent.

Mr. Theo. L. Dunn, Chief Engineer of the Maine Central R. R., was operated on for appendicitis on April 15 at the Maine Eye and Ear Infirmary, in Portland, Me., where he is now confined.

Capt. W. J. Barden, Corps of Engineers, U. S. A., has succeeded Lt. Col. M. B. Adams, U. S. Engrs., as officer in charge of the Cumberland, Obion and Forked Deer Rivers at Nashville, Tenn.

Mr. Luis Jackson has been appointed Industrial Commissioner of the Erie R. R. Co. and its allied and controlled lines, with office at 21 Cortlandt St., New York. Mr. Jackson was Industrial Commissioner of the Chicago, Milwaukee & St. Paul Ry. for the past 13 years.

Mr. J. N. Barr, General Superintendent of the Chicago, Milwaukee & St. Paul Ry., has been made Vice-President, in charge of motive power affairs. Mr. D. L. Bush succeeds him as General Superintendent.

Mr. F. E. Drake, who acted as Director of Machinery and Electricity at the Paris Exposition, and since then has been engaged in advisory work in Germany, has been elected President of the Lanyon Zinc Co.

Mr. C. A. Crane, who has been connected with the Aqueduct Commission, New York city, as an Assistant Engineer for the past two years, has resigned that position and opened an office for civil engineering and city surveying at 765 Tremont Ave., New York.

Mr. Fred. H. Seymour, who has been connected with the Holly Manufacturing Co., of Lockport, N. Y., has been appointed Chief Mechanical Engineer for the U. S. Sand Filtration Co., with headquarters at Pittsburg.

Mr. Bernard A. Etcheverry has resigned as instructor in civil engineering at the University of California to accept a position with a mining company of Guadalajara, Mex., in charge of both civil and mining engineering.

Mr. Henry Hamilton, sub-contractor for the Newark, N. J., water storage reservoir at Cedar Grove, was stabbed by an Italian at Cedar Grove on May 4. He is at the Mountainside Hospital, Montclair, N. J., and is reported to be dying.

Mr. W. J. Murphy, General Manager of the Cincinnati, New Orleans & Texas Pacific Ry., has been appointed Vice-President, and is succeeded by Mr. W. A. Garrett, formerly General Superintendent of the Philadelphia & Reading R. R.

Mr. Arthur L. Adams, M. Am. Soc. C. E., has retired from the management of the properties of the Contra Costa Water Co. and has resumed practice as a consulting hydraulic engineer with office in the Crocker Building, San Francisco, Cal.

Mr. Frank Jeffrey, formerly Superintendent of the West Bay City Shipbuilding Co.'s yard at West Bay City, Mich., has been appointed Vice-President and General Manager of the Union Iron Works of San Francisco, Cal., succeeding the late Mr. Irving M. Scott.

Mr. Oscar Sanne, who has for some time been Assistant Engineer of the Manhattan Ry., New York city, in charge of the reinforcement of the elevated railway superstructure, has taken a position with D. H. Burnham & Co., of Chicago, as Designing Engineer.

Mr. F. A. Delano, General Manager of the Chicago, Burlington & Quincy R. R., gave an address before the engineering students of Purdue University of Lafayette, Ind., on "The Comparative Development of American and European Railways," on April 13.

Mr. Moses Burpee, M. Am. Soc. C. E., Chief Engineer of the Bangor & Aroostook Ry., delivered a lecture on the construction work of the Fish River branch before the Engineering Society of the University of New Brunswick, at their regular meeting in March.

Mr. Walter Carnes, who for the past 15 years has been connected with the San Diego Water Co., and the San Diego Flume Co., at San Diego, Cal., as Secretary and Director, has resigned and has been elected Secretary and Director in the National Wood Pipe Co. at Los Angeles.

Messrs. Field, Hinchman & Smith, Engineers and Architects, 708-10 Washington Arcade, Detroit, Mich., are the successors to Field & Hinchman, engineers, and Mortimer L. Smith & Son, architects, both of Detroit. The new firm is composed of Messrs. H. G. Field, T. H. Hinchman, Jr., Fred. L. Smith and Ralph Collamore.

Mr. Maximilian Toch sails on the "Deutschland" for Europe on May 7 to attend the Convention of Applied Chemistry in Berlin. Mr. Toch goes as delegate of the Society of Chemical Industry, and as a delegate of the New York section of the Verein Deutscher Chemike. He will deliver a lecture before the convention. Mrs. Toch will accompany him.

Capt. J. C. Sanford, Corps of Engineers, U. S. A., engineer in charge of the river and harbor work in the district of Charleston, S. C., has been assigned to take charge of the work at Philadelphia, where he will succeed Col. C. W. Raymond, U. S. Engrs. Capt. George P. Howell, U. S. Engrs., now stationed at St. Louis, Mo., will take the place of Capt. Sanford at Charleston.

Mr. J. E. Farrell, Manager of the firm of Ryan & Kelley, contractors, of Philadelphia, Pa., severed his connection with that firm on April 30, to associate himself with another contracting firm of that city. Mr. Farrell had long been connected with the firm which he left, having worked his way up from an office boy to the management. As a token of esteem the men under his supervision presented him with a diamond ring, at the same time expressing their regrets at his leaving.

Mr. C. S. Sims, M. Am. Soc. C. E., has been promoted from General Superintendent to General Manager of the Baltimore & Ohio R. R., succeeding Mr. G. L. Potter, who has been appointed Third Vice-President. Mr. Sims was for some years in the maintenance-of-way department of the Pennsylvania lines, and after being Engineer of Maintenance of Way of the Chicago Terminal Division, was made Superintendent of that Division. He resigned this position early in 1902 to take the position of General Superintendent of the Baltimore & Ohio R. R. at New York.

Mr. Wm. Kent, M. Am. Soc. M. E., who has been an Associate Editor of Engineering News since 1895, has been appointed Dean of the Smith College of Applied Science of Syracuse University, and Professor of Mechanical Engineering, to succeed Mr. Chas. L. Griffin. Mr. Kent is one of the most widely known engineers in the United States. He was graduated from the Stevens Institute of Technology in the class of '76, the second class graduated after the founding of the Institute. His engineering experience has covered a wide field in the various branches of mechanical engineering; but the specialty to which he has given most time is steam engineering. He has been an industrious contributor to technical literature and besides his contributions to the Transactions of the numerous engineering societies in which he holds membership and to technical journals, he is the author of a number of standard treatises. The most important of these, doubtless, is his "Mechanical Engineers' Pocket Book," of which the first edition was published in 1895, and which is now in its thirtieth thousand. For many years, including the period during which he has been a member of the editorial staff of this journal, Mr. Kent has devoted a large part of his time to practice as a consulting engineer, and he will still continue this in his new position. He will remove to Syracuse and assume his new duties with the opening of the next college year in September. The Smith College of Applied Science of Syracuse University, of which Mr. Kent is to be head, was founded and has been liberally endowed by Mr. Lyman Cornelius Smith, of Syracuse, the inventor of the Smith Premier Typewriter. It has now about 180 students, and professorships in civil, mechanical and electrical engineering.

OBITUARY.

Mr. R. H. Wight, Division Engineer of the Iowa Central Ry. at Marshalltown, Ia., died recently.

Mr. John McGuire, General Superintendent and Business Manager of the Variety Iron Works, of Cleveland, O., died recently at Florence, Colo., of lung trouble, aged 46 years. He had been connected with the Variety Iron Works for 27 years and had been its General Superintendent for the past 15 years.

Mr. David Bell, ship and engine builder of Buffalo, N. Y., died at his home in that city on April 20, aged 85 years. Mr. Bell was born in Scotland, and came to this country in 1842 and located in Buffalo. He engaged in shipbuilding and also conducted a machine shop. He was head of the Bell Locomotive Works, which did business in the early sixties.

Mr. Cornelius O'Reilly, Architect, was killed by falling from a ladder at the Church of Our Lady of Lourdes in New York city while inspecting the work on the structure which is now nearing completion. Mr. O'Reilly was the designer of many churches, including the one at which the accident in which he met his death occurred, and was chairman of the building committee of Grant's Tomb. He was 68 years old, and was a native of Ireland.

Mr. John Baptiste Ford, one of the earliest manufacturers of plate glass in this country, and the first to pipe natural gas into Pittsburg, Pa., died at Creighton, Pa., on April 30. He was born in Danville, Ky., in 1811. He built a plate-glass factory at Tarentum, Pa., with his two sons and in later years established the Ford City Plate Glass Works on the Allegheny River, and still later the Ford Plate Glass Works at Toledo, O., and the Alkali plant at Wyandotte, Mich. He founded Ford City, Pa. A statue to him has recently been erected by grateful employees.

ENGINEERING SOCIETIES.

COMING MEETINGS.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
May 26, 27 and 28. Convention at Chicago, Ill. Secy., James B. Cahoon, 136 Liberty St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11 Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 17, 18, 19. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 22, 23, 24. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.
AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.
SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.
AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.
AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual conventioon at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Ill.

LIEBIG CELEBRATION.—On May 12, 1903, the centennial of the birthday of Justus Liebig, the New York Section of the Verein Deutscher Chemiker will hold a celebration in honor of the great chemist. They have invited the American Chemical Society, the Society of Chemical Industry, the American Electrochemical Society, and the Chemists' Club, to take part in the celebration. The orators for the occasion will be Prof. Ira Remsen, President of Johns Hopkins University, and Prof. Wm. H. Brewer, of Yale University. The exercises will be held in the hall of the Chemists' Club, 108 W. 55th St., New York, beginning at 8.30 p. m.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—At a meeting of the board of directors, held on April 24, the following important resolution was adopted:

That the head of the electrical engineering department in each of the universities and technical schools in which local meetings have been held during each year, be requested to select from the theses of each year's graduating class, the one which in his judgment is of superior merit and is a valuable contribution to electrical engineering work; that a committee of three be appointed as a Committee on Theses to receive the theses which may be presented and to select those which are of superior excellence. The committee shall designate to the board of directors of the institute those theses which in its judgment are worthy to be printed in full or in abstract in the transactions of the institute; these to be presented to the institute not later than July 15.

ENGINEERS' CLUB OF PHILADELPHIA.—At the meeting of April 4, Mr. L. Y. Schermerhorn read a paper on the "Obstruction of the Navigation of Southern Rivers by the Growth of the Water Hyacinth," in which he gave the history of the appearance and growth of this plant in Southern waters and of the attempts to eradicate it. The plant is probably an exotic, and the method of its introduction into the United States is not well established. A slide was exhibited showing a river so covered by dense growth of the hyacinth that it was impossible for boats to force their way through it. Mr. E. K. Landis read a paper on "The Richards Prismatic Stadia Used as a Range-finder." This instrument was mentioned by Mr. Du Bois at the meeting on March 21, in connection with reconnoissance work. In explaining the use of the prismatic stadia as a range-finder, Dr. Landis stated that his experience had shown that it can be used in many cases with as great accuracy as a sextant, and that it does not require the skilled observer. A number of results of observations were given.

Among the papers scheduled for recent meetings were: "The Borderland of Biology and Engineering; Exemplification of Engineering Principles in Living Structures," by Mr. H. Leffmann, and "The Military Importance of Naval Engineering Experiments," by Rear-Admiral G. W. Melville, Engineer-in-Chief, U. S. N.—Secy., J. O. Clarke.

WESTERN SOCIETY OF ENGINEERS.—At the meeting held at the society's rooms, in Chicago, April 29, a paper on "The Borings for the Bohio Dam for the Panama Canal" was read by Mr. R. C. Smith. This dam is to hold back the waters of the Chagres River, in order to maintain the summit level of the canal. The French engineers, after digging a few test pits and making a few borings, selected the narrowest point of the valley as the site for the dam, but the borings did not indicate the contour of the rock surface at the site, and the Isthmian Canal Commission sent down by the United States Government put two parties at work to make rows of borings along different sites.

The borings were made without pounding, the drill casing being kept loose and worked down by turning it back and forth by hand; the outfit was almost identical with that used for similar work by the U. S. Deep Waterways Commission. The drill foreman and his assistant, and two helpers, were sent out from this country, native labor being employed for clearing the brush, transporting material, etc. The plant used and the methods of working were described in detail, and a large list was given of the full equipment of machinery, tools and supplies. Several of the holes had to be cleared by blasting. In all about 10,600 ft. of hole was drilled, the holes being 50 to 188 ft. deep. The average progress was 80 ft. per day, with a maximum of 180 ft. The cost per foot of hole drilled was as follows: labor and superintendence, 48 cts.; traveling expenses and freight, 14 cts.; outfit, 6 cts.; total, 83 cts. per ft.

In the discussion it was stated that borings for the Boone viaduct on the Chicago & Northwestern Ry., were made with a drilling machine and sand pump, driven by a gasoline engine. The speed was reduced by gearing so as to give 75 to 100 strokes of the drill per minute. The materials encountered included shale, fireclay, coal seams, sandstone, etc. There were 62 holes, aggregating 6,000 ft., with a maximum depth of 150 ft. The daily average was 34 ft., and the cost averaged 53 cts. per ft. The same machine was used in the bed of the Mississippi River at Clinton Ia., encountering only fine sand and making about the same rate of progress. The maximum depth was 83 ft. The casing is driven by pounding, and the machine has to be stopped while this is being done but with the method used by Mr. Smith the work progresses continuously. Mr. Smith stated that on the borings for the Deep Waterway Commission the cost per foot of hole ranged from 54 to 73 cts., according to the materials encountered.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng News.
May 7.	Laying water pipe, Chicago, Ill.		Apr. 30
May 7.	Laying water pipe, etc., Dexter, Me.		Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 7.	Bridges, Columbus, O.		Apr. 9
May 8.	Extending water system, Cheyenne, Wyo.		Apr. 9
	Advertised, Eng. News, Apr. 9 to May 7.		
May 8.	Bridges, Salem, Ore.		Apr. 30
May 8.	Bridges, Columbus City, Ind.		Apr. 30
May 8.	Bridges (11), Sullivan, Ind.		Apr. 30
May 8.	Paving, Hamilton, O.		Apr. 30
May 8.	Mechanical stokers, Cleveland, O.		May 7
May 9.	Paving, St. Joseph, Mo.		May 7
May 9.	Railway (P. & W. Ry.) Ohio.		May 7
May 9.	Lagoons, Cascades, etc., St. Louis, Mo.		May 7
	Advertised, Engineering News, May 7.		
May 9.	Shafts and tunnel, Chicago, Ill.		May 7
May 9.	Macadam roads, Warren County, N. J.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 9.	Macadamizing and draining, Glencoe, Ill.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 10.	Water-works, Corvallis, Ore.		Apr. 23
May 10.	Railway (E. P. & N. E.), New Mexico		May 7
May 11.	Paving, Gloversville, N. Y.		May 7
May 11.	Paving, Oil City, Pa.		May 7
	Advertised, Engineering News, May 7.		
May 11.	Paving, Sault Ste. Marie, Mich.		May 7
May 11.	Bridges (2), Crescent City, Ill.		May 7
May 11.	Building, Fort Casey, Wash.		May 7
May 11.	Building, New York, N. Y.		May 7
May 11.	Pipe and castings, Holyoke, Mass.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 11.	Building, Cleveland, O.		Apr. 23
May 11.	Castings, Washington, D. C.		Apr. 23
May 11.	Paving, Weston, O.		Apr. 23
May 11.	Tail-race tunnel, Toronto, Ont.		Apr. 2
	Advertised, Eng. News, Apr. 2 to May 14.		
May 11.	Approaches, Elmira, N. Y.		Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 11.	Macadam road, Camden, N. J.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 11.	Railway work (Penn. R. R.), Philadelphia.		Apr. 30
May 11.	Building, Rolla, Mo.		Apr. 30
May 11.	Building, Bloomington, Ill.		Apr. 30
May 11.	Sewers, Noblesville, Ind.		Apr. 30
May 12.	Bridge work, Omaha, Neb.		Apr. 30
May 12.	Garbage work, Brooklyn, N. Y.		Apr. 30
May 12.	Shop equipment, Washington, D. C.		Apr. 30
May 12.	Building, Pocatello, Idaho		Apr. 30
May 12.	Building, Emporia, Kan.		Apr. 30
May 12.	Paving, Alexandria, La.		Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 12.	Bridge work, Nebraska City, Neb.		Apr. 16
May 12.	Gas holder, Copenhagen, Denmark.		Mar. 26
	Advertised, Engineering News, Mar. 26.		
May 12.	Pumping engine, Toronto, Ont.		Mar. 19
	Advertised, Eng. News, Mar. 19 to April 9.		
May 12.	Bridges (3), Magnolia, N. J.		Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 12.	Buildings, Beaumont, Tex.		Apr. 23
May 12.	Building, Washington, Ga.		Apr. 23
May 12.	Pumping plant, Atlantic City, N. J.		May 7
	Advertised, Engineering News, May 7.		
May 12.	Building, Atlanta, Ga.		May 7
May 12.	Electric light plant, Wheeling, W. Va.		May 7
May 12.	Portland cement, Toronto, Ont.		May 7
May 12.	Bridge, Joliet, Ill.		May 7
May 12.	Laying water mains, Waterbury, Conn.		May 7
May 13.	Lock gates, Pittsburg, Pa.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 21.		
May 13.	Pipe laying, Governor's Island, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 13.	Garbage work, Brooklyn, N. Y.		Apr. 30
May 14.	Lighting appliances, Governor's Isld, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 14.	Sanitarium, Burrillville, R. I.		Apr. 30
May 14.	Paving, Geneva, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 14.	Sewers, Oregon City, Ore.		Apr. 30
May 14.	Paving, Norfolk, Va.		Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 14.	Building, Hartford, Conn.		Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 14.	Building, Johnson City, Tenn.		Apr. 23
May 14.	Paving, Geneva, N. Y.		May 7
May 14.	Bridge, New York, N. Y.		May 7
May 14.	Dams, etc. (W.-W.), New Britain, Conn.		May 7
May 14.	Hardware, etc., New York, N. Y.		May 7
May 14.	Bridges (9), Auburn, Ind.		May 7
May 15.	Paving, Grove City, Pa.		May 7
May 15.	Paving, Marinette, Wis.		May 7
May 15.	Road, Portland, Me.		May 7
May 15.	Bridges (3), Gettysburg, Pa.		May 7
May 15.	Sewage purification plant, Des Moines, Ia.		Apr. 23
May 15.	Bridge, Grand Rapids, Mich.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
May 15.	Steel tank, etc., Richmond, Va.		Apr. 23
May 15.	Dredging, New London, Conn.		Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Dredging, New York, N. Y.		Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Drainage, Tomah, Wis.		Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
May 15.	Building, Winnipeg, Man.		Apr. 30
May 15.	Marble, New York, N. Y.		Apr. 30
May 16.	Building, Birmingham, Ala.		Apr. 30
May 16.	Paving, Cleveland, O.		May 7
May 16.	Electric plant, Los Angeles, Cal.		Apr. 23
May 16.	Paving, Paulsboro, N. J.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 16.	Bridges (7), Winchester, Ind.		May 7
May 18.	Building, Albany, N. Y.		May 7
May 18.	Paving, Michigan City, Ind.		May 7
May 18.	Sewers, Quincy, Mass.		May 7
	Advertised, Engineering News, May 7.		
May 18.	Paving, Marshalltown, Ia.		May 7
May 18.	Paving, Des Moines, Ia.		May 7
May 18.	Sewers, Des Moines, Ia.		May 7
May 18.	Water-works, Sterling, Colo.		May 7
May 18.	Pipe, castings, etc., Sacramento, Cal.		May 7
May 18.	Culvert, Des Moines, Ia.		May 7
May 18.	Bridge, Walla Walla, Wash.		May 7
May 18.	Road, Indianapolis, Ind.		May 7
May 18.	Bridge, San Jose, Cal.		May 7
May 18.	Bridge, Hays, Kan.		May 7
May 18.	Gas plant, Shelby, Ia.		May 7
May 18.	Bridge, Fredericton, N. B.		Apr. 2
	Advertised, Engineering News, Apr. 2.		
May 18.	Garbage plant, Shreveport, La.		Apr. 30
May 18.	Paving, Toledo, O.		Apr. 30
May 18.	Roads, Fort Stanton, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 14.		
May 18.	Paving, Payne, O.		Apr. 30
May 19.	Gravel road, Bluffton, Ind.		Apr. 30
May 19.	Building, Elizabethtown, N. C.		Apr. 30
May 19.	Gunboats (2), Washington, D. C.		Apr. 30
May 19.	Bridge, Milwaukee, Wis.		Apr. 30
May 19.	Paving, Charlotteville, Va.		Apr. 30
May 19.	Water-works, New Bremen, O.		May 7
May 19.	Cutting, timber, etc., New York, N. Y.		May 7
May 19.	Bridge work, Tyndall, S. Dak.		May 7
May 19.	Bridge, Langdon, N. Dak.		May 7
May 19.	Water-works, Greene, N. Y.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 19.	Water pipe, etc., New York, N. Y.		May 7
May 19.	Electric lamps, etc., New York, N. Y.		May 7
May 19.	Boilers, New York, N. Y.		May 7
May 20.	Paving, Walden, N. Y.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 20.	Water-works, Fayette, Ia.		May 7
May 20.	Sewage and drainage, Argentina (Foreign).		Apr. 23
May 20.	Pumping engine, Tucson, Ariz.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 20.	Bridge, Jacksonville, Fla.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 21.		
May 20.	Sewers, Bordhill, O.		Apr. 30
May 20.	Roads, Newport, R. I.		Apr. 30
May 21.	Filter plant, Yonkers, N. Y.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 21.	Plumbing, etc., Marietta, O.		Apr. 30
May 21.	Building, St. Louis, Mo.		Apr. 30
May 21.	Pumping plant, etc., Martinsburg, W. Va.		Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 21.	Lock irons, Wheeling, W. Va.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 21.	Building, Chamberlain, S. Dak.		May 7
May 21.	Building, Glenville, O.		May 7
May 21.	Sewer, Waterloo, Ia.		May 7
May 21.	Bridge, Omaha, Neb.		May 7
May 21.	Subway, Washington, D. C.		May 7
May 21.	Steam heating plant, Lafayette, Ind.		May 7
May 22.	Building, Pipestone, Minn.		May 7
May 22.	Sewer, Wilmington, Del.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Sewer, Fairhaven, Conn.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Paving, Saginaw, Mich.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Bridges (3), Indianapolis, Ind.		May 7
May 22.	River improvement, Philadelphia, Pa.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 22.	Meters, engines, etc., Washington, D. C.		Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 14, 21.		
No date.	Paving, Pittsburg, Kan.		Apr. 30
	Advertised, Engineering News, Apr. 30.		

RAILWAYS.

ALBANY & HUDSON.—Company will expend over $75,000 in laying new tracks and building new stations. Work under way on stations and to begin shortly on new track. It is planned to ultimately double track the line between Rensselaer and Hudson, N. Y., and it is said plans have already been prepared and bids made on that work. G. G. Blakeslee, is Gen. Mgr., Albany, N. Y.

APALACHICOLA NORTHERN.—Organized to build from River Junction, Gadsden county, Fla., to Apalachicola, some 70 miles; capital, $500,000 (subscribed); construction will begin as soon as preliminaries are adjusted.

BISMARCK, WASHBURN & GRANT FALLS.—A contract has been let to the Richards-Sundeen Co., Minneapolis, Minn., for constructing 15 miles of new line in North Dakota, and they have sublet a portion of the work to Dempsey & Daugherty, Grand Rapids, Mich. Work will begin immediately.

BUTTE & PLUMAS.—Surveyors are laying out lines up the Feather River in California. Party recently at White Rock.

CHICKAMAUGA PARK, TENN.—Bids are asked until May 23 for 5,600 ft. spur track. Capt. H. J. Slocum, Q. M., Chattanooga. (See advertising columns.)

DENVER, YANKEE HILL & WESTERN.—Geo. R. Stewart, of Alice, Colo., writes that bids are open for building 15 miles of this road touching Central, Russell, Nevadaville and Glacier City. Surveys are made; part of right of way secured; arrangements for capital being concluded. John C. McShane, Central City, Colo., is Pres.; R. A. Hall, Box 692, Denver, is Ch. Engr.

EL PASO & NORTHEASTERN.—Bids are asked until May 10 for grading new sidings between Alamogordo and Santa Rosa; approximately 25,000 cu. yds. H. S. Sumner, Ch. Engr., Alamagordo, N. Mex.

GARLAND & WESTERN.—Reports from Little Rock, Ark., say that E. C. Buchanan, Ch. Engr., has begun surveys from Hot Springs to a point in Montgomery county.

HOCKING VALLEY RY.—Engineers are at work on surveys for an extension to the Maumee River at a point near Birmingham. F. B. Sheldon is Ch. Engr., Columbus, O.

ILLINOIS CENTRAL.—Improvements to the roadbed of the Chicago-St. Louis line, costing about $500,000, have been provided for. The track will be reballasted with gravel, and grades and curves will be eliminated. D. Sloan, Ch. Engr. of Construction, Chicago, Ill.

ILLINOIS CENTRAL.—Business men of Jasper, Ala., are offering inducements to this company in the way of rights of way, terminal facilities, etc., for the extension of the line through that section.

IOWA, ILLINOIS & MISSOURI.—G. H. Boynton, Davenport, Ia., informs us that surveys are progressing with two parties in the field, one working south from Rock Island, Ill., and the other north from Davenport. Each has now run about 25 miles. The road will be some 400 miles long, running from Dubuque, Davenport, Rock Island and Moline to St. Louis. Geo. T. Crain, St. Louis, Mo., is Pres.

KENTUCKY.—Cincinnati, O., men have engaged Hippel & Heller, Civil Engrs., Louisville, Ky., to run a survey from Horse Cave, Ky., to Edmonton for a railway. Surveys are started.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

KENTUCKY.—The Pennsylvania Land Co. has secured property embracing the right of way of the Falls City Belt Line Co. in Louisville, and arrangements will be made for the construction of the proposed belt line.

LARAMIE, HAHN'S PEAK & PACIFIC.—E. S. Crawley, Boston, Mass., informs us that 100 miles of this road is under contract, to be completed by Jan. 1, 1905; 35 miles is graded from Laramie, Wyo., to Centennial; bridges are in and ties distributed. This division will be placed in operation this year. The line will be run to Grand Encampment, Wyo. Isaac Van Horn is Pres., Boston, and R. D. Stewart, Laramie, is Ch. Engr.

LITCHFIELD & ST. LOUIS.—D. W. Taylor, Litchfield, Ill., writes that nearly all work in connection with surveys and rights of way is completed, but the construction capital is not yet secured, and the date of awarding of contracts is therefore undetermined.

LITTLE KANAWHA R. R.—Construction work on the extension from Burnsville, W. Va., and the link west from Zanesville, O., has been suspended. Work will be resumed as soon as some financial difficulties are settled. The company has 50 miles of road operating from Creston to Parkersburg, W. Va.

NEW YORK CENTRAL & HUDSON RIVER.—Belt line between Schenectady, N. Y., and Troy contemplated, it is reported. W. J. Wilgus, Fifth Vice-Pres., was recently looking over the route in question.

OWENSBORO, ROCKPORT & VINCENNES.—A. H. Kennedy, Rockport, Ind., writes that a preliminary survey has been made for this road. The route runs through 50 miles of coal lands. Owensboro, Rockport, Lynnville, Oakland City and Vincennes are touched. J. Morgan & Co., Toledo, O., are promoting the line.

PITTSBURG & WESTERN.—Bids are asked until May 9 for constructing 12 miles of road from Cuyahoga Falls, O., to Ravenna. This section will complete the new low-grade line from Newcastle Junction, Pa., to Akron, O., a total of about 60 miles. S. M. Johnson, Res. Engr., Kent, O.; Paul Didio, Ch. Engr., Allegheny, O.

ST. LOUIS & SAN FRANCISCO.—Construction of extensions from Hoxie south to Little Rock, Ark., and from Willow Springs, Mo., north to Salem, Mo., each about 60 miles long, reported assured. Preliminary surveys were run during the winter. C. H. Purdon, St. Louis, Mo., is Ch. Engr.

SEABOARD AIR LINE.—M. Casey & Co., contractors for the first five miles of the extension from Rockmart to Atlanta, Ga., have begun work.

SEVIER COUNTY, TENN.—The County Court granted a franchise for a steam road from Sevierville to Knoxville on April 20, also a bonus of $15,000 to defray costs of rights of way. Ashley S. Johnson and Civil Engineer Moses are interested.

SOUTHERN PACIFIC.—New freight yards are to be established in Oakland, Cal., at the foot of Kirkham St., to take the place of those at 16th and Market Sts.

TENNESSEE, GEORGIA & SOUTH CAROLINA.—N. B. Finck, Blue Ridge, Ga., writes that preliminary surveys are completed and locations will be started at once. Some of the rights of way have been obtained. The company will be ready to receive bids in about 90 days or less. The road will be 220 miles long, and run from Anderson to Walhalla, S. C., to Clayton, Ga., Morganson to Cincinnati, Tenn.

VIRGINIA R. R.—K. T. Crawley, Pres., Farmville, Va., informs us that surveys are completed and most of the rights of way secured and contracts will probably be let this summer. The line will be 110 miles long and will touch a number of important towns. Ingles & Simpson, Radford, Va., are Engrs.

WABASH, R. R.—Sites are under option for new terminal for this system in Newport News Va.

YREKA R. R.—H. L. Walther, Supt., Yreka, Cal., writes that nothing definite has as yet been done in the matter of the change of motive power to electricity and the extension of the system.

NEW INCORPORATIONS AND CHARTERS.

GULF & CHICAGO.—Mississippi.—By incorporation final step is taken in the consolidation of the Gulf & Chicago line with the Mobile, Jackson & Kansas City road, now building northward therefrom; capital, $4,000,000. W. A. Liddell, New Albany; J. Y. Murray, Ripley, and R. F. Goodsell, New York, are incorporators.

MOBILE, COLD SPRINGS, NATCHEZ & NORTHWESTERN.—Miss.—To be chartered shortly with $6,000,000 capital stock to build from Mobile, Ala., to Natchez, and beyond the Mississippi to a point to be decided on later. E. H. Easterling, of the lumber firm of Moreton & Helms, Brookhaven, Miss., is the chief promoter.

SOUTH SHORE TERMINAL.—Ohio.—From Conneaut to Toledo, with branches from Lorain to Ashland; capital, $10,000. H. C. Burrell, I. N. Oakes and A. H. Babcock incorporators.

SUPERIOR & SOUTHEASTERN.—Wis.—Will run from Pratt, on C., S.P., M. & O., to point to be determined on later. John E. Glover, and L. S. Baker, New Richmond, and H. C. Baker, Hudson, are incorporators.

WASHINGTON RY.—Wash.—To run from Orondo via Waterville through the Big Bend wheat district; capital $100,000.

WASHINGTON & PACIFIC.—Wash.—Incorporated to build and operate railways, steamboats and other transportation lines in Chelan, Douglas, Okanogan and other counties in the state; capital stock, $1,000,000. John D. Atkinson, State Audr. A. W. Frater and Orto Olston, Eugene, Ore., are interested.

STREET AND ELECTRIC RAILWAYS.

MANCHESTER, N. H.—E. S. George, Pres. Uncanoonuc incline railway, states that work on the road will shortly be started. The road is to be built on the balance principal. Chief Engineer Brown, of the Otis Elevator Co., New York, was recently over the route.

HUNTINGTON, MASS.—J. H. Dickinson wrote us, under date of April 28, that the bill to incorporate the Huntington & Westfield River Ry. Co. would come up that week.

NEW HAVEN, CONN.—The Wallingford Tramway Co. has been incorporated to build the line from Wallingford to New Haven, which will complete the through trolley road from this city to New York. The incorporators are Wallingford business men.

DANBURY, CONN.—The stockholders of the Danbury & Harlem Traction Co., which is constructing the electric road from this city to Goldens Bridge, N. Y., have ratified the action of the directors in favor of increasing the capital stock and issuing bonds. Work will be resumed within a few weeks. The line will be 17 miles long.

ALBANY, N. Y.—The Elliottville, Mansfield & East Otto R. R. Co., of Elliottville, has incorporated; capital stock, $300,000; Chas. C. Locke, Randolph; D. S. Laing and F. H. Holmes, East Otto, are incorporators.——The Lake Keuka & East Side R. R. has filed articles of incorporation to build an electric or horse power road from Penn Yan to Keuka; capital, $130,000. C. H. Hanscomb, New York; C. H. Sisson, Penn Yan, and Fred. Crosby, Crosby, are directors.

NEW YORK, N. Y.—A plan for relieving the congested traffic at 42d St. and Fifth Ave. is being considered by Borough President Cantor. It calls for the depression of the crosstown trolley tracks in 42d St. 400 ft. east and west of that avenue.

PITTSBURG, PA.—The Wetzel & Taylor R. R. Co. is incorporated to build from New Martinsville to Sistersville; capital, $250,000. Robt. Miller, 210 Ferguson Bldg., Pittsburg, writes that this road was formerly known as the New Martinsville & Sistersville St. Ry. Work is under way and is estimated to be finished by October; Tennis Bros. & Co., Pittsburg, contractors; capital all secured. The line will be 12 miles long. John P. Gangwisch, Jr., Times Bldg., is Pres.

HARRISBURG, PA.—The board of directors of the Harrisburg Traction Co. plan to utilize $2,100,000 for the purpose of making improvements to the system, including paving in this city, double-tracking its lines, purchasing additional equipment and erecting new power house, etc.

SHARON, PA.—The construction of the line of the East End St. Ry. Co. from Sharon to West Middlesex will be started immediately; company capitalized at $500,000.

CARLISLE, PA.—The Cumberland & Perry Electric Ry. has completed surveys; to be 21 miles long. J. W. Wetzel is interested.

SCRANTON, MISS.—S. S. Bush, Gen. Mgr. Pascagoula St. Ry. & Power Co., Scranton, informs us that the company's road from Pascagoula to Scranton, East Side and Moss Point, Miss., 9½ miles, is being built under its own superintendence. Rights of way are secured, surveys made and two miles of track laid. The company will also supply light and water to a population of 15,000, and build a 30-ton ice plant. Samuel Young, Scranton, is Res. Engr.

CROSSVILLE, TENN.—Surveys are under way for the new road which the Cumberland Mt. Coal, Iron & Ry. Co. proposes building from Kismet to Jasper or South Pittsburg. Active work on grading will soon commence. J. H. McCord, West Point, Miss., is Pres.

COLUMBIA, KY.—The Columbia Interurban Ry. Co. has been organized with $15,000 capital stock. W. K. Azbill is Pres.

PADUCAH, KY.—Company formed by local people to build an electric line between here and East Cairo; capital, $500,000. The right of way follows the old Ohio River R. R. line; estimated cost, $400,000.

MADISONVILLE, KY.—A street railway franchise has been sold to Munnell Wilson. The line will run from here to Nortonville, Ky., a distance of 14 miles.

LOUISVILLE, KY.—The Louisville Interurban Ry. will build a road from this city to Valley Station. Work will commence as soon as condemnation proceedings are decided. Clarence Dallam is attorney for the company.

LOUISVILLE, KY.—Reports state that contracts for the projected C., C. & L. R. R. will be let May 15. Henry C. Star and H. L. Jackson, Ch. Engr., were recently in Madison making further plans.

DAYTON, O.—John L. Bushnell, Vice-Pres. Springfield & Xenia Traction Co., states that work is being pushed on the Springfield end of the road, and the erection of the power house at Springfield will soon be started. The cost of this structure will be about $225,000.

YOUNGSTOWN, O.—J. M. Walker, Ch. Engr. Mahoning Valley Southeastern Ry. Co., writes that a line 2½ miles long will be built to Struthers along the south side of the Mahoning River. The work will amount to about 60,000 cu. yds. of grading, 1,000 cu. yds. of stone work and track laying. Construction under way.

MADISON, IND.—L. N. Cravens, Secy., Madison, Greensburg & Indianapolis Ry., writes that contracts will be let in about 90 days. Permanent surveys are completed and engineers are now at work on maps, etc. The capital is not entirely provided for. Versailles, Osgood and Napoleon will be touched, besides towns named; length, 30 miles. R. Johnson, Madison, is Pres.; E. H. Layman, Cincinnati, O., is Ch. Engr.

MIDDLETOWN, IND.—The Union Traction Co. has been granted a franchise through this city. Line will run from Anderson to Newcastle by way of Middletown. Surveyors at work on route and material is being placed on the ground. Work will probably start this month.

KOKOMO, IND.—The Kokomo, Marion & Western Traction Co.'s line from Kokomo to Greenstown will be built this fall by the Indiana Traction Construction Co., which has been organized for that purpose. The new road will also run the Kokomo street railway system and the Kokomo lighting plant. With the 11 miles of electric road in Kokomo the new company will operate about 40 miles of line.

SPRINGFIELD, ILL.—Jacksonville Traction Co., Jacksonville, incorporated with $250,000 capital stock, to build a line from Jacksonville to Winchester, with branches through Sangamon, Scott, Pike and Morgan counties. C. N. Whitehead, Chicago; A. T. Sumner, Milford, and M. H. Havenhull, Jacksonville, are incorporators.

CARBONDALE, ILL.—The Carbondale Coal Co., which is a consolidation of all the coal mines for several miles east of this city, proposes building an electric road connecting the properties. E. Sponseler is Pres. and Gen. Mgr.

DES MOINES, IA.—G. B. Hippee, Gen. Mgr., states that the Des Moines Ry. Co. will spend $100,000 in extensions this year.

KANSAS CITY, MO.—The Metropolitan St. Ry. Co. has been granted permission to lay tracks along 10th St.

ST. LOUIS, MO.—The cost of the work planned by the St. Louis Terminal Association is estimated at $6,500,000. The line will be double track and run from the city proper to the World's Fair grounds.

GUTHRIE, OKLA.—Lawton St. Ry. Co. granted a charter; $600,000 capital stock; to build a system in Lawton, W. E. Hudson, J. S. McDuffie and J. W. Martin are interested.

FLORENCE, COLO.—Work will commence at once on the Florence street railway. The line will connect Pueblo and Canon City; about $150,000 is provided.

LOS ANGELES, CAL.—The board of public works will recommend to council that franchise applied for by L. C. Brand for an electric street railway to Glendale be offered for sale.

PORTLAND, ORE.—F. J. Fuller, Gen. Mgr. Portland Ry. Co., 121 First St., writes that about 12 miles of extensions on the city lines will be built this year.——The franchise for the West Side & Suburban, an electric line, which will extend from Portland about 30 miles to Hillsboro, will come up for final passage this month. The backers of the company will pay the city $25,000 for the grant, and promise to expend $100,000 in the construction of the road and branches.

ORANGEVALE, CAL.—The California Mining & Development Co., is preparing to build an electric road through this section.

SAN JOSE, CAL.—The franchise for the electric road on Market St. was sold to both the San Jose & Santa Clara R. R. and F. S. Granger.

WHITTIER, CAL.—Bids are asked until June 1 for electric railway franchise in this city. Walter E. Butler, Cy. Clk.

VISALIA, CAL.—The supervisors have granted electric road franchise to John Hays Hammond and Harold Wheeler. The franchise provides for construction of an electric road in Eureka.

KINGSTON, ONT.—The Ontario Electric Ry. promoters have practically decided to develop power by means of a dam at Glen Miller, on the Trent River, seven miles from Trenton, for the line to run from Cornwall to Toronto. The installation at that point will cost $20,000.

LIGHT, HEAT AND POWER PLANTS.

KENNEBUNK, ME.—Reports state that the municipal lighting plant, valued at $35,000, has been destroyed by fire.

MANCHESTER, N. H.—W. N. Allen, Selectman, writes us that the local electric light system is to be put in by a private corporation. The town has no interest in the management.

PLAINVILLE, CONN.—A site has been purchased here and plans made for a power plant to be erected for the Connecticut Railway & Lighting Co. J. E. Sewell, Gen. Mgr., Bridgeport, Conn. The power is to be furnished by the New Milford Power Co., which is erecting a generating plant on the Housatonic River. The electricity will be transmitted 40 miles.

HOOSICK FALLS, N. Y.—The Schaghticoke Electric Co., recently incorporated with $30,000 capital by Geo. E. Greene, E. H. Libby and others, proposes, it is said, to develop a water power on the Hoosick River, near Schaghticoke. It is stated that 5,000 HP. can be developed.

NEW YORK, N. Y.—Bids are asked by the Commissioner of Water Supply, Gas and Electricity, until May 19, for street lamps, boulevard globes, tops and reflectors, bridge globes, tops and reflectors, minor lanterns and globes, lamp posts, brackets, frames, crossheads, fire-alarm lanterns and police globes. Robt. Grier Monroe, Comr.

POTSDAM, N. Y.—$30,000 city light plant favored.

SEA ISLE CITY, N. J.—City council is considering an application for franchise for new gas plant.

CORRY, PA.—Bids are asked until June 1 for lighting streets and city buildings. Nevin R. Dickens, Cy. Engr. (see advertising columns.)

HOMESTEAD, PA.—Mifflin Light & Power Co. is to ask this place as well as Hayes, Munhell and West Homestead for franchise for furnishing light and power. L. L. Davis is an incorporator.

PHILADELPHIA, PA.—Contract for an addition to power house for the Philadelphia Rapid Transit Co. has been let to the Chas. Mecaul Co. The cost of the work is about $10,000.——Contract for power house for Woman's Hospital has been let to Wm. Steele & Sons, 16th and Arch Sts.; building to be of brick and steel, of one story.

PHOENIXVILLE, PA.—Borough will soon ask for bids for a new electric light plant. E. L. Buckwalter is Chn.

PITTSBURG, PA.—It is stated that the Manufacturers' Light & Heat Co. will at once commence building a 10-mile pipe line into West Virginia. The line will cost between $1,500,000 and $2,000,000. H. B. Beatty is Pres.

SCRANTON, PA.—It is expected that work on the plant and lines of the Consumers Gas Co., which was begun last fall, will be resumed in a short time. Col. Arthur Long is Mgr., and A. B. Dunning, Dunning Engineering Co., is Ch. Engr.

WAYNESBORO, PA.—It is stated that the Chambersburg, Greencastle & Waynesboro Electric Ry. Co., Chas. H. Latta, Chambersburg, Pa., have asked bids for a power house at this place; new equipment is to be installed.

SEAFORD, DEL.—We are informed that bids will probably be received in June for proposed $10,000 electric plant for this town. The plant is to be operated by steam and is to have a capacity of 1,400 16-c. p. incandescents. Plans and specifications have not yet been prepared. Authority to issue bonds has been secured, but they have not been sold as yet. Holton & Spruance, Des. Engrs., Wilmington, Del.

WASHINGTON, D. C.—Bids are to be opened at the navy yard May 26 for power plant equipment for the League Island Navy Yard.

WHEELING, W. VA.—Bids are reported asked by C. B. Cooke, Cy. Engr., until May 12 for improving the city electric light plant.

MT. AIRY, N. C.—We are informed that bids will probably be received about June 1 for $50,000 light and water plant for this place. Surveys are being made by John W. Hays, and as soon as these are completed plans and specifications for the work will be made.

BARTOW, FLA.—Reported that city will spend $10,000 improving electric light plant.

SYLACAUGA, ALA.—It is stated that the Sylacauga Land & Improvement Co. contemplate the installation of electric lights, water-works and sewers.

COUSHATTA, LA.—W. H. Fleming, of the Electric Manufacturing Co., New Orleans, La., has made a proposition for installing an electric light and ice plant in this town.

HENDERSON, TENN.—Reports state that the local electric plant owned by T. B. Hardeman and W. J. Ozier has been destroyed by fire, causing a loss of $4,000.

MEMPHIS, TENN.—An electric light and ice plant is to be installed at the hospital at a cost of $5,000.

COLUMBUS, O.—Contract for new building for municipal electric light plant has been let to D. W. McGrath, for $68,675.

DAYTON, O.—Harry J. McDargh is making surveys along the Cumberland River in southeastern Kentucky to develop water power for long-distance electric transmission. Arthur Giesler and C. P. Folsom, Dayton, O., are interested.

MIDDLETON, O.—The contract for constructing a coal gas plant of 200,000 cu. ft. daily capacity for the local gas and electric company, has been let to the Gas Machinery Co., Cleveland, O.

LAFAYETTE, IND.—We are informed that bids will be received until May 21 for a heating system, steam or hot water, for the State Soldiers' Home. The estimated cost is $30,000 and F. M. Goss is Des. Engr.; W. S. Haggard, Pres. Bd. Trus.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ELGIN, ILL.—Contracts for additional equipment for the electric light plant have been let as follows: James Scanlan, tubular boiler, $1,000; Erie City Iron Works, engine, $1,706; Ft. Wayne Electric Works, dynamo and switchboard, $1,875.

GRANTSBURG, WIS.—Electric plant voted for.

MILWAUKEE, WIS.—The Milwaukee Gas Light Co. is to erect a pumping station at 24th St. and St. Paul Ave., in connection with its new plant.

RANDOLPH, WIS.—Voted to have electric plant.

SHELBY, IA.—Mayor H. D. Reed writes us that bids will probably be received May 18 for putting in a city gas plant, the estimated cost of which is $5,000. About three miles of mains will be installed.

CALEDONIA, MINN.—We are informed that bids are to be opened soon for an $8,000 municipal light plant. The village officials would like to be informed as to the cost of a 125-HP. engine, two boilers, 80-HP. each; 20 arc lamps and 10 incandescents. Jerry Kenny, Village Recdr.

JUNCTION CITY, KAN.—The Junction City Electric Railway, Light & Ice Co. has been awarded the contract for furnishing electricity to Fort Riley for lighting. The contract calls for 6,000 16-c. p. incandescents and 41 arc lights. The company will enlarge its plant and add new machinery. The work on the reservation will be done by the government at cost of about $10,000.

BOZEMAN, MONT.—T. M. Pierce, Cy. Att'y. and Clk., writes us that the contract for street lighting was let to G. L. Hogan, for a five-year term at $7 per lamp per month for 35 1,200-c. p. lamps or over. For lighting the public buildings Mr. Hogan's bid was 7½ cts. per KW. hour. A new plant is to be erected and it is understood that the power will be obtained from a creek six miles distant. Mr. Pierce also writes us that there is a project on foot by Geo. E. Diers, Myron Finis and others to put in an electric light and power plant on the Yellowstone River, 25 miles east of Bozeman. It is proposed to bring the current across the Gallatin range to this place.

BOZEMAN, MONT.—City votes May 29 on granting a franchise for electric lighting to J. W. Matos, Helena, Mont.

GLASGOW, MONT.—Electric plant talked of.

GREAT FALLS, MONT.—Franchises for electric lights and an electric railway have been granted to John D. Ryan and Mrs. Marcus Daly. Improvements to the old plans, which were purchased by Mr. Ryan & Co., will be made at once.

CUSTER, S. DAK.—Franchise for electric light, power and heating plant, telephone and telegraph system, has been granted to R. M. Fuller and Fred. Beardshear.

LAREDO, TEX.—The local electric light and street railway company will make improvements and extensions, the city having agreed to extend its contract for ten years and to take 100 more street lights.

OTTINE, TEX.—Company electric plant proposed.

KALAMA, WASH.—Kalama Electric Light & Power Co. has secured right to erect an electric transmission line along Kalama Road to Kalama Falls.

NORTH YAKIMA, WASH.—C. H. Wright, Seattle, Wash., is said to be interested in a project for modern central heating plant for this city.

SAND POINT, WASH.—M. R. Rutherford, Missoula, Mont., has a franchise for establishing an electric light system.

SEATTLE, WASH.—The Snoqualmie Falls Power Co. has placed an order with the Pittsburg Reduction Co. for 300,000 lbs. aluminum cable to replace the present solid aluminum wire.

BAKER CITY, ORE.—It is stated that the White Swan Mines Co., Ltd., will install an electric plant about 25 miles from the mine, to be operated by water power, and will transmit the electricity to the mines for power purposes.

EUREKA, CAL.—Reports state that T. D. Petch, Supt. Eureka Lighting Co., with others, contemplate the construction of a power plant on the Trinity River. The plant would cost about $600,000. Water rights have been secured, and 12,000 HP. can be generated.

RICHFIELD, UTAH.—J. M. Billingsley, Joseph, Utah, will, it is said, soon erect a 250-HP. electric plant to supply Joseph, Elsinore, Monroe and Richfield.

PRESCOTT, ARIZ.—It is stated that the United Gold Platinum Co., J. B. Girard, Ch. Engr., is to install an electric plant on Cataract Creek.

COATICOOK, QUE.—Council has offered to purchase electric plant of local company for $30,000. If offer is not accepted municipal plant will probably be put in.

BONDS.—Grantsburg, Wis., votes bonds for electric light plant and water-works.——Cedarburg, Wis., by W. P. Jochem, Mayor, will receive bids until May 15 for $11,000 of electric light bonds.——Randolph, Wis., votes $5,000 of bonds for building electric light plant.——Floresville, Tex., votes to issue $18,000 of bonds for constructing electric light plant and water-works.——Stockton, Cal., votes May 28 on issue of $150,000 of bonds for constructing a steam-power electric lighting plant.——Gravenhurst, Ont., votes May 11 on by-law to raise $30,000 for electric light plant improvements.

NEW COMPANIES.—Water & Power Co. of California, San Francisco, Cal.; Henry F. Allen, Joseph D. Grant, W. H. Crocker; to construct and operate electric power plants and transmit electric current.——Fremont Power Co., Rexburg, Idaho; $50,000; J. E. Pwock, E. McIntyre, J. L. Jacobs.——The Panamint Light, Power & Ice Co., Yuma, Ariz.; $50,000; J. M. Graybill, W. T. Carter.——Gardiner Electric Light & Water Co., Gardiner, Mont.; $15,000; J. C. McCartney, Lawrence Link, Chas. B. Scott.——St. Regis Light & Power Co., St. Regis Falls, N. Y.; $50,000; W. T. O'Neil, H. E. O'Neil, W. B. Babcock.

BRIDGES

SOUTH NEW CASTLE, ME.—Contract for the six piers and two abutments of the Marsh River bridge has been let by the Maine Central R. R. to Ellis & Buswell, Woburn, Mass.

SOMERSWORTH, N. H.—A $2,000 iron bridge may replace the wooden structure over the river.

SPRINGFIELD, MASS.—Chas. M. Slocum, Cy. Engr., writes us that plans have been made for raising present bridge over Connecticut River. The work has not been advertised as they are waiting for decree for abolition of grade crossing at east end of bridge on line of N. Y., N. H. & H. R. R. Mace Moulton is Des. Engr.

NEW YORK, N. Y.—Bids are asked by the Park Board, Arsenal Bldg., until May 14, for constructing a concrete steel arch bridge, with stone arch facings over Bronx River. Wm. R. Willcox, Comr.

SOMERVILLE, N. J.—We are informed that no decision has been reached as yet regarding proposed $3,000 bridge at Girard Ave., Plainfield, N. J. J. Doughty, Jr., County Engr.

NEWARK, N. J.—Preliminary plans have been made by the county engineers for the proposed $450,000 bridge to be erected over the Hackensack on the line of Newark Plank Road.

GETTYSBURG, PA.—Bids are asked until May 15 for erecting three bridges as follows: 30-ft., Mt. Joy township; 70-ft. over Alloways Creek, Germany township; 40-ft., Beaver Dam Creek, Straban township. A. M. Waybright, County Comr.

NEW CUMBERLAND, PA.—Plans are to be started soon for bridge to be built over Susquehanna River for the Steelton & New Cumberland Bridge Co.; W. H. Smith, Mechanicsburg, Pa. The bridge is to be of steel and about one mile long.

PITTSBURG, PA.—It is stated that the Columbia Contracting Co. will build the stone arch bridge at Silver Lake on the Brilliant cut-off of the Pennsylvania R. R. The bridge is to be 700 ft. long and 80 ft. high, and will cost $50,000.

STROUDSBURG, PA.—The Stroudsburg Passenger Ry. Co. has let a contract to the New Jersey Bridge Co., 7 West 22d St., New York, N. Y. The railway company proposes to contract for several other substantial bridges in the near future. J. I. Riegel, Dunning Engineering Co., Mears Bldg., Scranton, Pa., is engineer for the railway company.

WASHINGTON, D. C.—We are informed that plans for widening the Aqueduct bridge are now under way and bids for doing the work will be asked some time after June 1. W. J. Daughs, Engr. Bridges.

GRAFTON, W. VA.—Contract for a foot bridge over Bartley Creek has been let to the Mt. Vernon Bridge Co., Mt. Vernon, O., for $3,000.

DANBURY, N. C.—We are informed that the contract for a bridge over the Dan River near Danbury is to be let to the Virginia Bridge & Iron Co., Roanoke, Va.; contracts for bridges near Dalton and Germanton are to be let to the Cotton States Bridge Co. Bids for the above were received May 1. O. M. Gordon, Register of Deeds.

AUGUSTA, GA.—Petitions have been filed with the War Department to require the Southern Railway and the city to place draws in the bridges over the Savannah River.

GREENSBURG, KY.—The county has voted $7,000 toward building a $10,000 bridge at this place.

COSHOCTON, O.—The contract for constructing a bridge over the Walhonding River has been let to the Canton Bridge Co., Canton, O., for $5,700.

DAYTON, O.—The following bids were received for constructing a 100-ft. span, 16 ft. wide bridge over Wolf Creek: Edw. J. Lander, Kenton, O., $3,525; Newcastle Bridge Co., Indianapolis, Ind., $3,398; Elkhart Bridge Co., Elkhart, Ind., $3,410; J. C. Morrison, Dayton, O., $3,079, $3,212, $3,258, $3,253, $3,279, $3,222, $3,240, $3,295 or $3,330, according to style wanted; Brookville Iron Works, $3,370; King Bridge Co., Cleveland, O., $3,480. For the substructure John Kirschner was low bidder.

PORTSMOUTH, O.—We are informed that it is proposed to erect a stone and iron bridge over Losons Creek, at an estimated cost of $18,000. Geo. E. Manheus, Pres. Cy. Council.

ST. CLAIRSVILLE, O.—County Commissioners have voted $10,000 for building bridge between Bridgeport and Kirkwood.

AUBURN, IND.—Reports state that bids are asked until May 14 for constructing nine steel bridges and abutments. H. D. Boozer, County Auditor.

GOSPORT, IND.—The contract for a bridge over White River near here has been let to the Lafayette Engineering Co., Lafayette, Ind., for $11,140.

INDIANAPOLIS, IND.—Bids are asked until May 22 for constructing a bridge over Fall Creek on College Ave., a bridge in Washington township and a bridge over Little White Lick Creek, near Bridgeport. John McGregor, County Comr.

MARION, IND.—The county council has appropriated $14,000 for a bridge to be built at Wilson's Ford, above Jonesboro. Cortez Knight is County Surv.

WINCHESTER, IND.—Bids are asked until May 16 for seven bridges and abutments. John H. Boltz, County Auditor.

GALESBURG, MICH.—Contract for steel bridge over Kalamazoo River has been let to the Illinois Bridge Co., Chicago, Ill., for $4,825.

MOLINE, ILL.—The county supervisors have voted $10,000 toward a $21,000 bridge to span Rock River in Canoe Creek township.

CRESCENT CITY, ILL.—We are informed that bids will be received at the Town Clerk's office until May 11 for constructing two small highway bridges on stone masonry. Ira O. Baker, Engr.

JOLIET, ILL.—Bids are asked until May 12 for building a five-span steel bridge over the Kankakee River on the line between Will and Grundy counties. The bridge is to be 819 ft. long and will have 18 ft. clear roadway. Henry H. Stassen, Chn. County Comrs.——The county will pay half the expense of the following bridges: New Lenox, over Hickory Creek, to cost $2,500; Wilton, over Forked Creek, $2,000; Monee, over Racoon Grove, cost $1,300; Green Garden, over Forked Creek, cost $2,000.

BURLINGTON, IA.—E. A. Steece, Cy. Engr., has been working on plans for a viaduct over Valley St. The structure is of two 30-ft. and one 40-ft. iron spans and will be 30 ft. wide. It will cost about $5,000.

MORRIS, MINN.—Contract for iron bridge over Pomme de Terre River in Framnas has been let to Wm. S. Hewitt & Co., Minneapolis, Minn., for about $1,500.

SEDAN, KAN.—It is stated that J. I. Crouse will receive bids until May 29 for two steel bridges, two 80-ft. spans each, to be built by Chautauqua county at Monett and Elgin.

HAYS, KANS.—Reports state that bids are asked by the county clerk until May 18 for constructing 100-ft. steel bridge over Smoky Hill River.

OMAHA, NEB.—Bids are asked until May 21 for constructing highway bridge over Central Boulevard on Leavenworth St. Bids will be received for a concrete-steel arch bridge, a steel plate girder bridge and a stone arch bridge. J. H. Evans, Pres. Park Comrs.

TYNDALL, S. DAK.—Bids are asked until May 19 for all bridges to be built by Bon Homme county the ensuing year. V. F. Kreycik, County Auditor.

LANGDON, N. DAK.—Bids are asked until May 19 for constructing 60-ft. long 20-ft. high and 18-ft. wide steel bridge on the line between Alma and East Alma. Robert Work, County Auditor.

BROWNWOOD, TEX.—Contract for an iron bridge over Pecan Bayou has been let to M. S. Hasle, Jr., Dallas, Tex., for $3,573.

GEORGETOWN, TEX.—The county proposes to erect, at a cost of several thousand dollars, the following bridges: Taylor; Gabriel River, Jonah; North Gabriel River, on Florence road; over South Gabriel River, on Hopewell road.

SPOKANE, WASH.—It is stated that the public works board are to at once call for bids for reconstructing south approach of Monroe St. bridge; estimated cost of work will be about $26,000.

TACOMA, WASH.—Contract for rebuilding 31st St. bridge has been let to Geo. M. Savage at $900 for removing the present structure, $4,762.88 for 232,800 ft. new lumber, $367.75 for 31,500 ft. old lumber, $1,340 for 134 yds. concrete, including excavation and $125 for constructing culvert.

WALLA WALLA, WASH.—Bids are asked until May 18 for iron work for steel girder bridge to be erected over Mill Creek on East Main St. R. P. Reynolds, Cy. Clk.

LOS ANGELES, CAL.—Reports state that plans for the construction of 30 bridges for the Southern California division of the Santa Fe Ry. have just been completed by R. B. Burns, Ch. Engr., and work will be commenced at once. Of the new bridges 15 will be on the line between Los Angeles and San Diego. The remainder will be on the line between here and Barstow.

SAN DIEGO, CAL.—Bond issue of $5,000 for B St. bridge has been voted.

EUREKA, CAL.—It is stated that the contract will not be let until after July 1 for two bridges over the Main Mattole and the North Fork, the estimated cost of which are $8,000 and $6,000 respectively.

SAN JOSE, CAL.—Bids are asked until May 18 for constructing steel bridge over Coyote River on Berryessa Road. Henry A. Pfister, Clk.

CARLETON PLACE, ONT.—Bids are asked until May 25 for constructing superstructure and substructure of bridge over Mississippi River in Dalhousie township. E. T. Wilkie, Engr.

HAMILTON, ONT.—A new bridge may be built on the Watertown road at a cost of $4,000.

WYOMING, ONT.—Bids are asked until May 9 for an iron bridge, 65-ft. span, with stone or concrete abutments. Hugh Montgomery, Comr.

BUILDINGS.

JACKSON, N. H.—Grays Inn, which was destroyed by fire, will be replaced by a $75,000 hotel. C. W. Gray, Preble House, Portland, Me., is interested.

LANCASTER, N. H.—Bids are asked until May 9 for constructing addition and repairing High School building. F. C. Cleaveland.

BOSTON, MASS.—W. G. Rantoul, Arch., 2a Park St., has prepared plans for a store and office building, 61 × 90 ft., at Boylston St., for the Proctor estate, to cost $60,000.

BROOKLINE, MASS.—A 2-story addition, 60 × 126 ft., will be built to the building at Harvard St. and Aspinwall Ave. for W. H. Bowker. Cost $40,000.

NEWPORT, R. I.—The plans of Creighton Withers, Arch., 22 Bellevue Ave., for the $100,000 high school building have been accepted.

ALBANY, N. Y.—Bids are asked by board contract and supply until May 18 for erecting contagious disease building. I. Wachsman, Clk. of Bd.——$50,000 has been appropriated for a new state hospital for the insane.

BROOKLYN, N. Y.—Bids are asked by the borough president, Municipal building, until May 20 for repairing rooms in Borough Hall.

BUFFALO, N. Y.—A 6-story building will be erected on site of the old Tifft House at cost of $367,000.—The Evangelical Lutheran Church of the Holy Trinity, on Main St., will be erected at cost of $80,000.

FORT WADSWORTH, N. Y.—Bids are asked until May 28 for erecting a ward wing on hospital and building in rear for kitchen. Lt. G. L. Hicks, Jr., Q. M.

GREENPOINT, N. Y.—Plans have been prepared for the new Seventy-Fifth Precinct police station on Fourth St. It will be of brick, 57 ft. deep, and cost $90,000.

JASPER, N. Y.—The McKinley Memorial College will be erected at this place. D. O. Hunter is interested.

NEW YORK, N. Y.—Bids are asked by department of education, 59th St. and Park Ave., until May 11, for sanitary work, heating and repairs to various schools. C. B. J. Snyder, Supt. of School Bldgs.——The Rockefeller Institute will probably be located at Avenue A and 64th to 67th St. The main building will be located where now stands the Pastime Athletic Club house.——Cady, Berg & See have contract for erecting a 10-story department store building on the site of the old Macy building, 14th St. and Sixth Ave., for Henry Siegel, Pres. Simpson, Crawford Co.; 22 elevators will be installed.——Plans are being prepared for the large terminal building for the surface and underground roads at the end of the Brooklyn bridge. Estimated cost, $20,000,000.——An apartment house, 90 × 100 ft., will be erected at 96th St. and Park Ave.——The new 71st Regiment armory will be 197 × 256 ft. Clinton & Russell, Archs., 32 Nassau St.——The United States Realty & Construction Co. will erect the following buildings: On site of old Sturtevant house, 29th St. and Broadway, a first-class hotel; on site of Y. M. C. A. building, 23d St. and Fourth Ave., an 11-story fireproof office building; at 67th St. and Broadway, a first-class hotel; 69th St. and Broadway, a 12-story fireproof apartment house, and at 111 Broadway, a 20-story office building.——The residence of M. F. Plant will be erected at 52d St. and Fifth Ave. and cost $300,000. It will be 50 × 100 ft. and of brick and Indiana limestone. R. W. Gibson, Arch., 76 William St.

NEW YORK, N. Y.—Plans have been filed by Rossiter & Wright, Archs., 95 Liberty St., for 12-story brick lofts, 58 × 130 ft., at 656-58 Broadway, for E. K. Rossiter, 152 West 57th St.; by Cady, Berg & See, Archs., 6 West 22d St., for 15-story brick store, 50 × 206 ft., at 58-60 West 14th St., for Rhinelander Real Estate Co., 31 Nassau St.; by A. Balschun, owner and Arch., 669 East 135th St., for four 5-story brick tenements, 25 × 87 ft., in 132d St.; by C. C. French, Arch., 406 West 42d St., for two 6-story brick lofts, 120 × 86 ft., in West 27th St., to cost $225,000, for O. H. Olsen, 1223 Southern Boulevard; by Robinson & Crust, Archs., 1165 Fifth Ave., for a 7-story brick office building, 40 × 88 ft., in 33d St., for L. S. Forgotson, 206 West 124th St.; by Bernstein & Bernstein, 111 Broadway, for two 6-story tenements, 37 × 87 ft., at 241-45 Eldridge St., for Fine & Falk, 230 East 10th St., to cost $70,000; also for two 6-story brick warehouses, 45 × 87 ft., at 144-50 West 18th St., for D. Perelman, 256 Henry St., to cost $70,000; by Horenburger & Straub, Archs., 122 Bowery, for 6-story brick flat, and at 97-101 Ave. B, for Lippman & Gold, 1771 Madison Ave., to be 60 × 80 ft., and cost $50,000; by Bernstein & Bernstein, for 6-story brick tenement, 50 × 66 × 78 ft., at 72-74 Delancey St. and 118 Allen St., for M. Weinstein, 151 East 181st St., to cost $45,000; by J. H. Duncan, Arch., 203 Fifth Ave., for a 5-story brick dwelling, 25 × 68 ft., at 31 West 56th St.,

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

for A. Lehman, 763 Fifth Ave., to cost $55,000; by M. J. Murphy, Arch., 211 West 18th St., for a 3-story brick stable and dwelling, 58 x 145 ft., in Park Ave., for Charles M. Hogan, 202 Central Park West, to cost $40,000; by G. F. Pelham, Arch., 503 Fifth Ave., for two 6-story brick tenements, 37 x 88 ft., in 111th St., for Swichman & Reich, 228 Madison Ave., to cost $80,000; by L. V. J. Weither, Arch., 126 East 125th St., for a 6-story brick flat, 50 x 88 ft., for C. Adams, 2137 Madison Ave., in 124th St., to cost $75,000; by R. W. Gibson, Arch., 76 William St., for a 6-story brick dwelling, 100 x 68 ft., at 2 East 52d St., for M. F. Plant, of Groton, to cost $300,000; by Clinton & Russell, Archs., 32 Nassau St., for a 5-story brick armory, 197 x 236 ft., in Park Ave., between 33d and 34th Sts., for the 71st Regiment; by Israels & Harder, Archs., 31 West 31st St., for 10-story brick factory, 50 x 84 ft., at 15-17 East 18th St., for the Brogan Construction Co., 560 West 112th St., to cost $190,000.

NEW YORK, N. Y.—Bids are asked by department public charities, 26th St., until May 11 for constructing various buildings.

ROCHESTER, N. Y.—Reports state that plans have been drawn for a new science building for the University of Rochester. Cost, $75,000.

SARATOGA SPRINGS, N. Y.—A 12-story hotel-sanitarium, 247 x 260 ft., will be erected at cost of between $2,000,000 and $3,000,000. The Charles P. Boland Co. received the contract.

SYRACUSE, N. Y.—L. C. Smith is planning to enlarge the L. C. Smith College of Applied Science from one building to four. The first building contemplated will be for electric, hydraulic and steam engineering, and will be 50 x 200 ft.

SCHENECTADY, N. Y.—The following bids have been received for constructing the ward school in Brandywine Ave.: J. L. Nolan, $67,490; Buckley Construction Co., Plattsburg, $94,000; L. E. Worden, Hoosick Falls, $94,875; Jas. H. McCaron, $93,987; E. R. Porter, $95,533, etc. Bids rejected as being too high. Plans will have to be modified.

PLAINFIELD, N. J.—A high school will be erected at cost of $125,000.

TRENTON, N. J.—Kendrick & Roberts, Archs., 1120 Chestnut St., Philadelphia, Pa., received contract for erecting a brick, stone and steel fireproof theatre at $100,000 for O. S. Wilkinson.

BERWICK, PA.—An election will be held May 18 to decide upon erecting municipal building and other public improvements. Cost, $60,000. (See Sewers.)

GREENSBURG, PA.—Plans are being considered for a $50,000 Y. M. C. A. building.

HARRISBURG, PA.—A. E. Western, Arch., 1120 Chestnut St., Philadelphia, is preparing plans for a 4-story brick, stone and steel, semi-fireproof theatre, for J. D. Mischler, Reading. Cost, $70,000.

LANCASTER, PA.—G. S. Flick received contract for completing the General Hospital. Cost, $50,000.

PITTSBURG, PA.—Ralph & Sumner Sollitt, Chicago, received contract for erecting Jas. McCreery & Co.'s 12-story building, 96 x 215 ft., at Wood St. and Sixth Ave. Cost, $600,000. D. H. Burnham, Arch., Chicago.——Kaufmann Bros. will erect a 12-story steel frame addition to the Kaufmann Store Bldg., at Diamond St and Cherry Alley. Cost, $400,000.——The Germania Savings Bank will erect an 18-story office building at Wood and Diamond Sts. Cost, $1,500,000. A. E. Niemann, Cashier, is interested.

PHILADELPHIA, PA.—S. Greenberg will erect a 6-story brownstone apartment house, 62 x 160 ft. at 1208-10 North Broad St., at cost of $100,000. Also an addition to present building, 52 x 62 ft.——The Hahnemann Hospital is having plans prepared for the following new buildings: Nurses' home, receiving ward, clinical amphitheatre, dispensary, etc. Brick and steel, fireproof and steam heating. Cost, $300,000.

BALTIMORE, MD.—C. Cassell, Arch., Law Bldg., is preparing plans for a 1-story church at Fulton and Penrose Aves. Cost, $45,000.

CUMBERLAND, MD.—McIser & Piel, Bedis Exchange, Baltimore, received contract for erecting 3-story stone parochial hall for St. Patrick's R. C. Church, at $50,000.

HAGERSTOWN, MD.—James Knox Taylor, Arch., Treas. Dept., Washington, D. C., is preparing plans for the 2-story brick, stone and steel fireproof post office.

WASHINGTON, D. C.—The Willard Hotel Co. will erect hotel on plaza, opposite new union station, at cost of $500,000 to $1,000,000.——The Potomac Hotel Co. will erect a 9-story marble and terra cotta hotel, 120 x 206 ft. at H and 17th Sts., at cost of $1,000,000. B. S. Ashby, New York, is interested.——Congress has appropriated $6,000,000 for building and improvements at various army posts.——A. B. Clark, Arch., 605 F St., is preparing plans for a 4-story addition to the Garfield Hospital. Cost, $100,000.

HARRISONBURG, VA.—J. Wilton, Pres. First National Bank, writes us that W. M. Bucher & Son received contract for erecting 6-story brick and stone office building, 73 x 94 ft., at $60,000.

NORFOLK, VA.—J. K. Peebles, Arch., Columbia Bldg., has completed plans for the Board of Trade and Business Men's Asso.'s $50,000 building.——F. Tatterson submitted lowest bid for erecting new Carnegie Library at $50,609. Hale & Morse, Archs.——C. R. Parlett, Lowenberg Bldg., received contract for new 8-story brick, stone and steel fireproof warehouse, 110 x 150 ft., from the Garrett Wine Co., at $125,000.

ELKINS, W. VA.—Harding & Unman, Archs., 1316 G St., Washington, D. C., are preparing plans for 3-story college building for the Presbyterian College. Cost, $50,000.

MOUNDSVILLE, W. VA.—The Van Dorn Iron Co., Cleveland, O., received contract for constructing 256 cells in the penitentiary, at $60,000. Dickinson & Beardsley, Marietta, O., received stone contract at $20,600.

ASHVILLE, N. C.—The Southern Ry. Co. will erect new $50,000 passenger station. F. P. Milburn, Arch., Columbia, S. C.

ATLANTA, GA.—Bids are asked by commissioners of roads and revenues until May 12 for erecting court house. F. P. Milburn, Arch., Columbia, S. C. R. D. Callaway, Chairman.

LA GRANGE, GA.—Bids are asked by county commissioners until July 13 for erecting courthouse. A. J. Bryan & Co., Archs., 1104 Hennen Bldg., New Orleans, La.

COLUMBUS, O.—Bids are asked by board of education until May 23 for constructng school house. L. Livingston, Clk.——The Brunson & Union Clothing Co.'s building has been destroyed by fire. Other buildings burned. Loss, $600,000.——H. E. Smith will erect a 3 and 5-story brick business building in Third St., at cost of $40,000 and a 3-story building in High St., at cost of $60,000.——A large building, 125 x 187 ft., may be erected at corner of High and Long Sts. D. Thomas is interested.——The Ohio Commission on Tuberculosis has recommended an appropriation of $200,000 for erecting a sanitarium.——Peters, Burns & Pretzinger have completed plans for a new department of physics building at the O. S. N. It will be three stories, pressed brick, 106 x 215 ft., and cost about $130,000.

CLEVELAND, O.—The Russell Realty Co. will erect a 4-story pressed brick apartment house at Russell and Lexington Aves. W. W. Hodge, Arch., Rose Bldg.——The new city hall will have about 4,000,000 sq. ft. of floor space, according to Architect Skeel's plans.

CINCINNATI, O.—A 10-story steel fireproof building, 57 x 100 ft., will be built on site of the Duhme and Clark stores. Cost, $100,000.

CINCINNATI, O.—Elisner & Anderson, Archs., 18 East Fourth St., will prepare plans for new $60,000 elephant house.

GLENVILLE, O.—Bids are asked by board of education until May 21 for erecting school house. C. A. Judson, Clerk.

GREENCASTLE, IND.—Reports state that J. W. Gaddis, Arch., Vincennes, has been selected to prepare plans for the new court house.

INDIANAPOLIS, IND.—At the annual meeting of the Grand Chapter of the Order of the Eastern Star, steps were taken to erect a masons' home. Address Mrs. S. M. Davis, Grand Matron, Scottsburg.

LAFAYETTE, IND.—Plans have been prepared for a 4-story brick and stone Y. M. C. A. building, costing $50,000.

LOGANSPORT, IND.—Judge D. D. Dykeman will erect a hospital at Hamilton Heights at cost of $50,000. Plans will be prepared shortly.——Plans are being prepared for a temple for the United Lodges of Odd Fellows.

MARION, IND.—The contract will soon be let for the Society of Friends' Coliseum building. Address Society of Friends.

WASHINGTON, IND.—A council committee has been appointed to procure a site for a city hall. Address Mayor Clark.

DETROIT, MICH.—The United States Concrete & Machine Co. received contract for erecting a concrete terrace at $85,000, exclusive of lighting and heating.

JACKSON, MICH.—The Odd Fellows will erect a home for aged and destitute Odd Fellows, at cost of between $75,000 and $100,000. Past Grand Master C. H. Haskin is interested.

KALAMAZOO, MICH.—A new hospital will be built at the Michigan Asylum at cost of between $50,000 and $60,000.

LANSING, MICH.—An appropriation of $50,000 has been made for erecting an institution for the employment of the blind. $25,000 will be spent on machinery.

CHICAGO, ILL.—Chas. Netcher will erect a store building, 50 x 160 ft., at 77-9 Madison St. at cost of not less than $200,000.——The William McKinley high school will be three stories, pressed brick, cost $250,000, and be located in West Adams St.——The Chicago, Burlington & Quincy Ry. Co. will erect a 1-story freight house, 40 x 150 ft., at South Western Ave., at cost of $45,000.——S. E. Gross and Chas. Counselman will erect 92 3-story brick and stone residences in Hyde Park, at cost of $500,000.

CHICAGO, ILL.—The New York Realty & Bldg. Co. will erect a 16-story office building on La Salle St., 70 x 100 ft., and costing $600,000. Operations will start June 1.——C. W. Van Keuren has plans for two 3-story apartments for Earl Armstrong at 5714-18 Prairie Ave., to cost $40,000.——Upward of $1,000,000 will be expended in school construction this year. Trustees Plamondon, Thorp and Chopiel are arranging the preliminary work with Architect Mundie.——The John Moir Co. will erect an 8-story building in Michigan St., near Orleans, after plans by D. H. Burnham & Co. It will be fireproof, 100 x 92 ft., and cost $100,000.

MONTICELLO, ILL.—B. F. Huft, Cerro Gordo, Ill., writes that plans are being prepared by Jos. W. Royer, Arch., Urbana, for the two new county buildings here, court house, three stories high, 84 x 96 ft., and jail addition, 40 x 60 ft., but the date of letting is not decided, probably latter part of this month or early in June. Court house will be of stone, brick, steel and terra cotta, and will cost about $80,000; jail will be brick, steel and concrete, and cost $16,000. A heating plant will be built in both structures, but is not included in the estimates.

MILWAUKEE, WIS.—The board of supervisors of Manitowoc county have awarded plans to Kinney & Detweiller, Archs., Minneapolis, for the new $100,000 court house.——The committee on claims of the legislature has recommended the appropriation of $50,000 for rebuilding the main building of the Industrial Schools for Girls at North Point.

FOND DU LAC, WIS.—A. D. Werner, Arch., has plans for a brick school building for St. Peter's Lutheran congregation.——Council will issue $60,000 bonds for new library and street improvements.

MADISON, WIS.—A new building will probably be erected for the Supreme Court, costing $500,000. Senators Kreutzer, Hudnall and O. N. Johnson are on the legislative committee.

CEDAR FALLS, IA.—The board of regents of the State University of Iowa has decided to erect two new buildings, one to be a museum and library, costing $300,000, and the other an assembly hall, armory and gymnasium, to cost about $125,000.

MINNEAPOLIS, MINN.—The legislature has authorized the council to issue $150,000 in bonds for the proposed auditorium. John De Laittre is Chn. Com. on Bldgs.

PIPESTONE, MINN.—Bids are asked by the Office of Indian Affairs, Washington, D. C., until May 22 for erecting stone dormitory to the Indian School. Also plumbing, steam heating and gasoline gas piping. De Witt S. Harris, Supt., Pipestone.

ST. PAUL, MINN.—Foley Bros. & Kelly will erect a warehouse at Prince and Broadway Sts., at cost of $150,000.

ERIE, KAN.—The court house will be erected at this place.

ABERDEEN, S. D.—W. L. Dow & Son, Archs., Sioux Falls, have prepared plans for the pressed brick normal school, 41 x 136 ft.

CHAMBERLAIN, S. D.—Bids are asked by Office of Indian Affairs, Washington, D. C., until May 21 for constructing a brick dormitory, school house and addition to dormitory at Chamberlain school. Also plumbing, heating, sewer system, gas machine house, etc. John Flinn, Supt.

HELENA, MONT.—Fire has almost totally destroyed the Montana Club. Loss, $100,000.

SPRINGFIELD, S. D.—Bids will probably be readvertised for constructing additional dormitory and new system of water and sewerage at the Hope Indian school.

BISMARCK, N. D.—M. E. Beebe, Arch., Fargo, will prepare plans for addition to capitol building. Cost, $100,000.

ST. LOUIS, MO.—A 14-story hotel may be erected at corner of Broadway and Chestnut St., if the site can be secured. Cost $600,000.——Bids will soon be asked for erecting the Indiana Building. Cost, $150,000. N. W. Gilbert, Fort Wayne, Ind., is interested.——Competitive plans will soon be asked by James Knox Taylor, Supervis. Arch., Washington, D. C., for the post office. Cost, $500,000.——A permit has been issued to the Lindell estate, of which Wilber F. Boyle is trustee. Building will be fireproof, 10 stories high, 137 x 154 ft., and will cost $475,000. Plans by Mauran, Russell & Gardner; Wm. Stenhoff, contractor.

LITTLE ROCK, ARK.—Plans are completed for the Ashley county court house at Hamburg by Arch. F. W. Gibb; to cost $40,000. Contract will soon be let. S. R. Smith is County Judge.

BEAUMONT, TEX.—Glenn Allen, Waco, is preparing plans for new high school building to cost $65,000.——We are informed that the Texas & New Orleans R. R. will erect a passenger station costing $32,000, and a freight station costing about $18,000. Plans not yet perfected.

TEXARKANA, TEX.—Contract for new jail and jailer's residence for Miller county let to Bryant & Brown, local contractors, at $39,865.

COLORADO SPRINGS, COLO.—Work will start at once on the new addition to St. Francis Hospital. The addition will be four stories high, 173 x 45 ft., and will cost about $100,000. Father Adrain is Supervising Arch.

DENVER, COLO.—F. E. Edbrooke Architectural Co. informs us that there is nothing definite decided on as yet regarding the proposed 10-story office building on 17th St.——John S. Flower has stated that Moritz Barth will build at once a 3 or 4-story block on Welton and 18th Sts. Plans call for a $100,000 structure.

DENVER, COLO.—J. D. Rockefeller will give two-thirds of $100,000 to construct buildings for the University of Nebraska, if remainder is raised by July 1.

SPOKANE, WASH.—The proposed labor temple will cost about $75,000.

SEATTLE, WASH.—Bebb & Mendel, Archs., write us that an additional story will be built on the Butler Hotel and new boilers, electric and ice plants installed.

FORT CASEY, WASH.—Bids are asked until May 11 for constructing one single barracks, two sets Lieutenants' double quarters, etc. G. H. Penrose, Q. M.

WATER SUPPLY AND IRRIGATION.

SANFORD, ME.—Town will contract with Sanford Light & Water Co. and Springdale Aqueduct Co., for the use of hydrants at $33.33 each. It is said that improvements will be made.

LITTLETON, N. H.—The town is stated to have placed an order with Chas. Miller Sons Co., Utica, N. Y., for ten miles of pipe for a main line from the north branch of the Gale River. Lorine G. Farnham is Cons. Engr.

GLOUCESTER, MASS.—Wm. Wheeler, Cons. Engr., 14 Beacon St., Boston, has been inspecting the proposed route of the new force and distribution mains, and will make report to the water commission on his findings.

GREAT BARRINGTON, MASS.—We are informed that the Great Barrington Fire District has done nothing as yet toward an additional water supply, save to appoint a committee to investigate. J. E. Clarey is said to be the chairman.——$5,000 has been appropriated for laying new water mains in Main St., from Elm to St. James Pl.

HOLYOKE, MASS.—The water board may borrow $50,000 for completing the high-service reservoir this season.

NEW BRITAIN, CONN.—We are informed that bids are asked until May 14 for constructing two dams, 370 ft. and 340 ft. long, at Wolcott. Prospective bidders must visit the scene of the work. P. J. Egan, Clk. Water Commissioners. Press reports state that cost of the work will be about $75,000.

SOUTHINGTON, CONN.—We are informed that the proposed pipe extensions of the Southington Water Co., T. H. McKenzie, Secy., will be made by the company by day labor.

WATERBURY, CONN.—Bids are asked until May 12 for laying water mains. R. A. Cairns, Cy. Engr.

BATAVIA, N. Y.—Lina Beecher, Asst. Mgr., Horse Shoe Lake Improvement Co., writes us that the company has been organized with $250,000 capital, and is negotiating with Batavia, Medina and other villages to furnish them with pure water. The proposed source of supply is from Seven Springs and Horse Shoe Lake.

CORNING, N. Y.—City contemplates extension of waterworks, construction of four-span steel highway bridge over the Chemung River; also construction of a sewer plant to cost $30,000 or $40,000. E. J. Kelly, Cy. Clk.

GREENE, N. Y.—Bids are asked until May 19 for constructing system of gravity water works for this place. Edgar B. Kay, Engr., Ithaca, N. Y.; Mata L. Cowles, Clk Trus. (See advertising columns.)

GREENPOINT, N. Y.—We are informed that two Jenkins pumps, a 100-ft. stand-pipe, and 40 hydrants will be installed for the work now under way for the village. The source of supply is to be from surface wells and E. K. Hutchington, Oyster Bay, N. Y. (L. I.), is contractor. Isaac Reeve, Village Pres.

NEW YORK, N. Y.—A special committee report to the council of New York University favors the placing of filtering apparatus in the university buildings.

NEW YORK, N. Y.—Bids are asked by the Commissioner Water Supply, Gas and Electricity, until May 19, for cast-iron water piper, branch pipes and special castings; also stop cocks. Robt. Grier Monroe, Comr.

OSWEGO, N. Y.—We are informed that nothing will be done this year toward extending the city water-works to Lake Ontario. Thos. H. Bennett, Supt.

SARANAC LAKE, N. Y.—Village will vote May 12 on new water supply, which is to be taken from McKenzie Pond, two miles away; cost of pumping stations and trunk line required is about $45,000.

ATLANTIC CITY, N. J.—Bids are asked by Board of Water Commissioners until May 12 for installing a plant for pumping 3,000,000 gals. per day from 12 artesian wells. See advertising columns. Kenneth Allen, Engr. and Supt.

MILLVILLE, N. J.—City has made contract with Peoples Water Co. for $6,000 a year. Porteus Brandriff is Supt.

RAHWAY, N. J.—City proposes to establish a $30,000 filtering plant. Chas. B. Holmes is Mayor.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CAMDEN, N. J.—The Neptune City Water Co., recently incorporated with $5,000 capital, and office at 119 Market St., Camden, has a franchise for laying pipes and furnishing water in this borough.

HARRISBURG, PA.—We are informed that no steps have been taken toward awarding a contract for a filtration plant. M. B. Cowden, Cy. Engr. Press reports state that a committee from Steelton borough has been in an informal conference with city officials with regard to securing a supply of filtered water from the proposed Harrisburg plant.

READING, PA.—The water board has recommended a new 15,000,000-gallon pumping engine be installed at Maiden Creek Station. The cost of this and the other necessary improvements is $131,000.

LYNCHBURG, VA.—City may erect works.

WINSTON SALEM, N. C.—City engineer will make surveys for municipal works.

SYLACAUGA, ALA.—Reports state that the Sylacauga Land & Improvement Co. project water-works, electric lights and sewers.

CHATTANOOGA, TENN.—We are informed that bids are asked until May 28 for a complete water and sewer system at the Chickamauga Park, Ga., army post. Capt. H. J. Slocum, Q. M., Chattanooga.

JELLICO, TENN.—Works and sewers favored.

NASHVILLE, TENN.—A bill is before the council to give the U. S. Sand Filtration Co., Indianapolis, Ind., a 50-year franchise for constructing a slow-sand filtration plant of 25,000,000 gallons daily capacity. Another bill provides for a $200,000 bond issue for city to put in filtration plant of its own.

CLEVELAND, O.—Contract for iron pipe for Kirtland St. pumping station has been let to Cleveland Steam Boiler Co., for $8,380.

MILFORD, O.—We are informed under date of April 30 that bids will be called in one week for constructing works to cost about $24,000. C. B. Babbitt, Batavia, O., is Des. Engr. W. E. Motsinger, Pres. W.-W. Trustees.

NEW BREMEN, O.—Bids are asked until May 19 for constructing water-works. John P. Force, Cons. Engr., 37 Dispatch-Butler Block, Columbus, O.; Thos. Flack, Bd. Trustees.

GRAND RAPIDS, MICH.—The board of public works is asking for the immediate issue of $80,000 of the $170,000 water main extension bonds recently voted.

ELGIN, ILL.—A contract for rotary pumps and engine for the new water-works has been let to the Jackson Machine Co., San Francisco, Cal., for $15,000.

PROPHETSTOWN, ILL.—We are informed that action will be taken soon on the construction of works, plans for which have been made by Iowa Engineering Co., Clinton, Ia.

SHEBOYGAN, WIS.—Mayor C. H. Born writes us that new council will very likely take some positive steps for building a new system of works in a month or so. The source of the proposed supply is from Lake Michigan.

CENTERVILLE, IA.—New well to be dug.

FAYETTE, IA.—Bids are asked until May 20 for the construction of water-works, made up as follows: steel tower and wooden tank, brick pumping station, about 1½ miles mains with hydrants, etc., 80-HP. boiler with stack, 700,000-gallon duplex high pressure pump, 80-HP. steam engine, water heater and feed pump. Geo. A. Oliver, Mayor.

KINGSLEY, IA.—15,000 ft. mains extension reported.

MARSHALLTOWN, IA.—It is stated that city will put up a $25,000 storage reservoir.

MAXWELL, IA.—Plans for improving works and for steel water tower are reported as being made by the Iowa Engineering Co., Clinton, Ia.

NEW SHARON, IA.—Reported that town will put in 8,000 ft. new mains.

LONE TREE, IA.—Works projected.

STORM LAKE, IA.—Matter of filtering water supply under consideration. Prof. A. Marston, Ames, Ia., is to report on the project.

LAKE WILSON, MINN.—We are informed that the majority of the council are opposed to issuing bonds for works, so nothing has been done. Martin Forrest is Recdr.

MARYSVILLE, KAN.—It is stated that council has been asked to grant a 20-year franchise to Henry J. Allen, Denver, Colo., who wishes to purchase the local water-works.

PARK CITY, MONT.—Works contemplated.

CARTHAGE, MO.—A 20-year franchise for water-works has been granted to J. T. Lynn.

LEXINGTON, MO.—It is expected that the matter of improving and extending the water-works will be taken up within the next two months.

RICHMOND, MO.—Mayor Shoop has suggested a filtration plant for city.

DALHART, TEX.—Private works talked of.

MT. PLEASANT, TEX.—It is stated that the Peden Iron & Steel Co. has closed a contract with the M. C. O'Matters Plumbing & Machine Co., Houston, Tex., for all the material, stand-pipe, pumps, boilers and engines for works for this place.

ALVA, OKLA.—Bids are asked until May 26 for constructing a water system. Reports state that a $30,000 bond issue has been voted for the above purpose. H. E. Noble, Chn. W.-W. Com.; W. H. Cofield, Mayor.

BOULDER, COLO.—The water board is considering matter of new water supply. W. W. Wells is Water Comr.

DENVER, COLO.—Plans have been filed with the state engineer for the proposed Fort Lupton reservoir. They provide for a basin of 155,727,000 cu. ft. capacity. The water will be taken from the Platte through the Fulton ditch.

STERLING, COLO.—Bids are asked by the town clerk until May 18 for constructing water-works.

GOLDENDALE, WASH.—We are informed that the contract for constructing a reservoir for the local water-works has been let to Thos. Deering for $1,750. Allan Bombrake, Mayor.

MESA, WASH.—J. W. Harris has franchise for works.

UNION, ORE.—E. W. Davis writes us that city will put in 5,000 or 6,000 ft. of lateral water pipe this season. The work, however, will be done by Superintendent of Water-Works.

SAN JACINTO, CAL.—Ex-Congressman R. J. Waters, Oakland, Cal., is stated to have offered to construct a $100,000 water system for this place.

SAN DIEGO, CAL.—E. A. Hernecourt, Cy. Engr., writes us that a $381,000 bond issue was voted April 25, to be used as follows: water distributing system, $199,000; extension of sewer system, $140,000; construction of buildings for fire department, $37,000; construction of bridges, $5,000.

SACRAMENTO, CAL.—Bids are asked until May 18 for furnishing the following cast-iron pipes and special castings: 732 tons 12-in. pipe, 100 tons 10-in. pipe, 236 tons 8-in. pipe, 45 tons 6-in. pipe, 21 tons special castings. M. J. Desmond, Cy. Clk.

CEDAR CITY, UTAH.—City will put in works.

PHOENIX, ARIZ.—W. A. Faush, Cy. Engr., writes us that a $300,000 bond issue for new works failed to carry at an election April 15.

BONDS.—Saranac Lake, N. Y., votes May 12 on bond issue for works. See item elsewhere in this column.——Springfield, Tenn., votes May 22 on issue of $35,000 bonds for putting in water and light plants.——Armour, S. Dak., voted April 10 on $10,000 water-works bond issue.——Dallas, Ore., will sell $15,000 bonds for water purposes.——Nez Perce, Idaho, votes to issue $6,700 water-works bonds.——Antioch, Cal., votes to issue $30,000 bonds for works and sewers. See item elsewhere in this column.——Dundalk, Ont., will vote on $18,000 bond issue, of which $6,000 is for works.

SEWERAGE

AUGUSTA, ME.—W. R. Getchell, Cy. Engr., writes us that contract for constructing 4,200 ft. of 8 to 20-in. sanitary pipe sewers has been awarded to E. R. Bean and C. W. Trask for $4,600.

PORTLAND, ME.—The Robinson Constructiton Co. is reported to have received the contract for sewers in East Everett, Davis and Gilsan Sts.

LISBON, N. H.—An appropriation of $4,500 has beenf voted for sewer system.

BROCKTON, MASS.—Sewers have been ordered in Pleasant, Fremont, Tribon, Calmar and Denton Sts. and Belmont and Stephens Aves.

QUINCY, MASS.—Bids are asked until May 18 for constructing 3,700 ft. of 20-in. pipe sewers and 2,982 ft. 8 to 20-in. pipe sewers. A. F. Schenkelberger, W. T. Isaac and T. J. Lamb, Bd. Sewer Comrs. (See advertising columns.)

SOUTH HADLEY FALLS, MASS.—Snow & Barber, Civil Engrs., Boston, are making surveys for new sewer system.

HUDSON, MASS.—A sewer system will be constructed at a cost not exceeding $100,000.

PALMER, MASS.—I. F. Foley, Town Clk., writes us that $5,000 has been appropriated for constructing sewers. W. H. Brainerd, Des. Engr.

PLYMOUTH, MASS.—C. E. Trumbull Co., Boston, received contract for constructing sewers for $22,458.

WESTFIELD, MASS.—Bids will soon be asked for constructing the Northerly sewer system. O. E. Parks, Town Engr.

WEST SPRINGFIELD, MASS.—G. N. Vaughn received contract for laying a 12-in. Akron sewer pipe in Boulevard St.

FAIRHAVEN, CONN.—Bids are asked until May 22 for constructing a sewer system in this village. Address Frank N. Allen, Secy. Sewer Com. (See advertising columns.)

LESTERSHIRE, N. Y.—Bids will soon be asked for constructing 9¼ miles of pipe sewers, with manholes, etc. Knight & Hopkins, Engrs., Rome.

NIAGARA FALLS, N. Y.—A tile sewer will be constructed in Highland Ave.; $35,000 will probably be spent on sewers this year.

PENN YAN, N. Y.—Plans have been prepared for a 12⅛-mile sewer system. Also for disposal plant near the old plaster mills. Cost, $75,000. Knight & Hopkins, Engrs., Rome.

HOBOKEN, N. J.—Callery & Murphy submitted the lowest bid, $39,402, for brick and pipe sewer in Fisher Ave.

SCRANTON, PA.—Work will soon start on sewer in Luzerne St.

SOUTH BETHLEHEM, PA.—Contract has been awarded for sewer system. Cost, $111,000.

YORK CITY, PA.—Hering & Fuller, Engrs., 170 Broadway, New York, will prepare plans for sewer system.

WILMINGTON, DEL.—Bids are asked until May 22 for constructing Prices Run sewer and branch, consisting of approximately 6,600 ft. of brick and concrete sewer from 4 ft. 9 ins. to 9 ft. 3 ins. in diameter. Address Board of Directors of Street and Sewer Department. T. Chalkley Hatton, Consult Engr. (See advertising columns.)

ATLANTA, GA.—About 24,300 ft. of sewer extensions will be made at cost of $250,000, including purification plants.

DALTON, GA.—A sewer will be constructed at cost of $25,000.

NASHVILLE, TENN.—Reports state that $2,300 has been appropriated for constructing sewer in Magnolia St.

LEXINGTON, KY.—Bids are asked until May 9 for constructing sanitary sewers. H. T. Duncan, Mayor.

AKRON, O.—Resolutions have been passed for constructing sewers in Turner and Brown Sts. Chas. H. Isbell is Clk.

GENEVA, O.—Ordinance passed to improve part of Cedar and various other streets by constructing sewers. C. I. Crowther is Clk.

MONTPELIER, IND.—Bids are asked until May 12 for constructing pipe sewers. J. F. Jones is Cy. Clk. See Streets and Roads.

ANN ARBOR, MICH.—Bids being received for constructing sewer in Glen Ave. Cost, $1,047.

ROCK FALLS, ILL.—Work will soon start on sewer system covering six miles.

SPRINGFIELD, ILL.—A sewer will be constructed in Walnut St. at cost of $2,810.

MILWAUKEE, WIS.—Contracts have been awarded for constructing sewers in various streets.

DES MOINES IA.—Bids are asked by board public works until May 11 for constructing 647 ft. of 12-in. pipe sewer in East Ninth St. B. O. Hanger, Bd. Pub. Wks.

DES MOINES, IA.—Bids are asked by board of public works until May 18 for constructing 12 15-in. pipe sewers in West Third, Fifth and Buchanan Sts. B. O. Hanger, Bd. Pub. Wks.

WATERLOO, IA.—Bids are asked until May 21 for constructing a 12-in. pipe sewer in various streets. B. G. Stewart, Cy. Clk.

ST. PAUL, MINN.—The Stryker Ave. sewer will cost about $19,207.——City Engineer Rundlett's estimate for Conway St. sewer is $2,627, and Yankee St. sewer $1,486.

ABILENE, KAN.—A second sewer system will be constructed west of Mud Creek.

SAN ANTONIO, TEX.—We are informed that Maury & Anderson, Consult. Engrs., Houston, will prepare plans for a system of canals and conduits for the San Antonio Irrigation Co.

COLORADO SPRINGS, COLO.—City Engineer Case has completed plans for about five miles of sewers. Cost, $16,000.

FORT COLLINS, COLO.—W. T. Stein, Pueblo, received contract for constructing 5,400 ft. of 24-in. sewer for the sugar factory.

SEATTLE, WASH.—Local papers state that F. McLellan & Co. received the contract for Madrono Place sewer at $25,566.——Prospect St. sewer system has been ordered. Cost, $22,800.

PENDLETON, ORE.—G. N. Miller, Engr., has prepared plans for sewer system 42,000 ft. long and of 20-in. pipe. Cost, $30,000.

MARYSVILLE, CAL.—The estimate of Marsden Manson, Engr., San Francisco, for new sewer system is $67,000. The plans provide for two rotary pumps of 5,000 gallons per minute, to be driven by two interchangeable 30-HP motors and a steam engine.

SAN FRANCISCO, CAL.—The board public works awarded the City Street Improvement Co. the contract for the Sixth St. sewer system, at $53,236.

PRESCOTT, ARIZ.—The sewer and water system will be extended.

ST. CATHARINES, ONT.—Civil Engineer Chipman's estimate for constructing 30,850 ft. of sewers is about $77,500.

VICTORIA, B. C.—The sum of $60,000 will be expended on sewer extension.

WINNIPEG, MAN.—The council has decided to construct sewers in various streets at cost of about $89,250. C. J. Brown is Cy. Clk.

BONDS.—Beverly, Mass., will issue $250,000 for improvements, part of which is for sewer system.——Knoxville, Tenn., may issue bonds for sewer system and water-works.——Bonds will be issued by Prescott, Ariz.——An election will soon be held by Marysville, Cal., to decide upon bond issue for sewer system.——$30,000 will be issued by Pendleton, Ore., for sewer system.——Elkhart, Ind., will issue $5,000 for sewer.

GARBAGE DISPOSAL—STREET CLEANING

WINTHROP, MASS.—Bids are asked until May 28 for constructing garbage crematory and shed at Fort Banks. T. E. Merrill, Q. M.

NEW YORK, N. Y.—A new plant for the street cleaning bureau in Richmond borough is to be provided at cost of $90,000; $25,000 of this is for a crematory.

SOUTH BEND, IND.—Contract is to be let to the Dixon Garbage Crematory Co., Toledo, O., for erecting 25-ton plant in this city; cost not to exceed $6,885.

CHICAGO, ILL.—City is stated to be planning for large crematory on the Bridewell grounds. F. W. Blockl is Comr. Pub. Wks.

OAKLAND, CAL.—City engineer is to make plans for salt water sprinkling plant.

STREETS AND ROADS.

PORTLAND, ME.—Bids are asked until May 15 for road, sidewalk and path construction at Fort Preble. Capt. A. W. Yates, Q.M., 186 Middle St.

SCARBORO, ME.—The highway from railway station to Southgate House, Pronts Neck, will be widened to 60 ft.

DARTMOUTH, MASS.—A strip of road from Faunce's corner to the railroad track will be macadamized at cost of $6,000.

FALMOUTH, MASS.—Wm. McDermott was the lowest bidder for constructing road from Palmer Ave. to the H. Foster Shiverich house, at $5,900.

GENEVA, N. Y.—Bids are asked by board of improvements until May 14 for paving about 20,000 sq. yds. on Wadsworth, Bradford and Lake Sts., with tar macadam, asphaltic macadam, brick and sheet asphalt. W. S. Wood is Sec'y.

GLOVERSVILLE, N. Y.—Bids are asked until May 11 for paving about 3,500 sq. yds. with brick. M. Vrooman, Cy. Engr.

WHITE PLAINS, N. Y.—Contracts have been awarded for constructing more than 25 miles of roads in Yorktown, New Castle and Somers. Cost, $1,000,000.

WALDEN, N. Y.—Bids are asked until May 20 for paving 4,000 sq. yds. with brick on Main St. J. T. Young, Village Clk. (See advertising columns.)

HOBOKEN, N. J.—Callery & Murphy submitted the lowest bid, $24,930, for grading, flagging and curbing Fisher Ave.

PAULSBORO, N. J.—Bids are asked until May 16 for resurfacing part of Crown Point Stone Road, estimated disance being 17,800 sq. yds. Wm. M. Carter, Engr., 127 South Broad St., Woodbury. (See advertising columns.)

GROVE CITY, PA.—Bids are asked until May 15 for paving North Broad St.

OIL CITY, PA.—Bids are asked until May 11 for paving Smedley and Main Sts. and Hoffman Ave. S. W. Barnhart, Compt. (See advertising columns.)

CHARLOTTESVILLE, VA.—Bids are asked by street improvement committee until May 19 for laying 30,000 sq. yds. of bituminous macadam, brick or granite block pavement. De Mott & Winfree, Engrs., City Hall.

BEDFORD, O.—Bids are being received for improving streets. G. S. Smith is Village Clk.

CELINA, O.—Keller Bros. received contract for paving East Livingston St. with Metropolitan at $20,753.

CINCINNATI, O.—The Barber Asphalt Co. received contract for paving Spring Grove Ave. bridge approaches at $10,541. The Kirchner Construction Co. received contract for improving Calhoun St. at $36,112.

CINCINNATI, O.—Rockdale Ave. will be graded.

CLEVELAND, O.—Bids are asked until May 16 for draining and paving Woodlawn Ave. with brick. W. P. Rice Engineering Co., 752 Society for Savings.

FINDLAY, O.—Front St. will be paved with block at a cost of about $25,000. F. C. Ray is Cy. Clk.

GLENVILLE, O.—The Cleveland-Trinidad Co., Cleveland, received contract for paving St. Clair St. with asphalt.

LORAIN, O.—Bids are asked until May 29 for paving Prospect and Bank Sts. and Third Ave. with brick. J. J. Mahony, Cy. Clk.

RYAN, O.—Bids will soon be asked for paving Lynn St. with brick. J. W. Hoke is Cy. Clk.

SALEM, O.—Geo. D. Smith submitted the lowest bid for paving Newgarden St., and East Broadway with asphalt block, and Howard St. with fireclay brick, at $56,000.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

YOUNGSTOWN, O.—The Cleveland-Trinidad Paving Co. of Cleveland, received contract for paving Yale Ave. and Wood St.

ANDERSON, IND.—Bids are asked until May 18 for improving various streets by constructing sidewalks, etc. F. A. Sharp is Cy. Clk.

CONNERSVILLE, IND.—K. L. Hanson, Cy. Engr., writes us that bids are asked until May 18 for constructing 30,000 sq. ft. of cement sidewalks and two miles of gravel streets.

INDIANAPOLIS, Ind.—Bids are asked by commissioners of Knox county, Vincennes, until May 18 for constructing about 36 miles of gravel road.

JASPER, IND.—Bids will soon be asked for constructing 16 miles of rock roads. Cost, $42,929.

MICHIGAN CITY, IND.—Bids are asked until May 18 for paving Green, Ohio, Detroit, Pine, Fourth and Eighth Sts. and Krueger Ave. with brick and macadam. E. J. Heise, Cy. Clk.

MONTPELIER, IND.—Bids are asked until May 12 for constructing block pavement and cement sidewalks in Jefferson st. J. F. Jones is Cy. Clk. See Sewers.

PLYMOUTH, IND.—Bids are asked until May 25 for paving about 38,000 sq. ft. on Liberty St., with brick. A. E. Rhodes, Cy. Clk.

PORT HURON, MICH.—Bids are being received for paving Military and Stone Sts. and Pine Grove Ave. with tar and bituminous macadam. R. D. O'Keefe is Supt. Pub. Works.

SAGINAW, MICH.—Bids are asked by board of public works until May 22 for paving 120,000 sq. yds. with asphalt, brick, bitulithic, asphalt block and macadam. R. W. Roberts, Cy. Engr. M. L. DeLand, Pres. Bd. Pub. Wks. (See advertising columns.)

SAULT STE. MARIE, MICH.—Bids are asked until May 11 for macadamizing Pine St. W. F. Grant, Town Engr.

DECATUR, ILL.—The Barber Asphalt Co. received the contract for paving East Main, Water, Bradford Sts. and Central Ave., at $32,071.

MARINETTE, WIS.—Bids are asked until May 15 for paving Stanton and Liberty Sts., Ella Court and Newberry Ave. with macadam. Jas. H. Brick, Bd. Pub. Wks.

DES MOINES, IA.—Bids are asked until May 18 for curbing about 3,058 ft. on Center St. and Kingman Boulevard. W. W. Wise, Bd. Pub. Wks.

MARSHALLTOWN, IA.—Bids are asked until May 11 for paving about 15,500 sq. yds. with asphalt and curbing 8,800 ft.

MINNEAPOLIS, MINN.—Seventh St. and Washington and Third Aves. will be paved at cost of about $112,000.

ST. JOSEPH, MO.—Bids are asked until May 9 for paving Ashland Ave. and Rochester Road with macadam. T. Steinacker, County Surveyor.

ST. LOUIS, MO.—Bids are asked by board public improvements, new City Hall, until May 8, for constructing sidewalks. Hiram Phillips, Pres.

ORANGE, TEX.—J. E. Hockey, Secy. Progressive League, writes us that the road to Lake Sabin will be six miles and cost $2,000.

BALLARD, WASH.—T. Ryan & Co. submitted the lowest bid, $37,670, for paving Ballard Ave.

EVERETT, WASH.—Reports state that A. C. Goerig received contract for building two miles of Marsh road, at $5,000.

SEATTLE, WASH.—Second Ave. will be regraded at cost of $94,000.——Broadway will be paved partly with brick and partly with asphalt at cost of $16,000.

TACOMA, WASH.—Geo. M. Savage & Co. received the contract for constructing cement sidewalks on First and 21st Sts., at $10,047.

PASADENA, CAL.—The Fairchild-Gilmore, Wilton Co. received the contract for paving North Fair Oaks Ave.

SAN DIEGO, CAL.—The city engineer is preparing estimates for paving Fifth St.

CHATHAM, ONT.—Bids are asked until May 11 for brick and asphalt paving on various streets. W. G. Merritt, Cy. Clk.

WINNIPEG, MASS.—McMillan Ave. will be paved with asphalt at cost of $14,183.

BONDS.—Winnipeg, Man., will issue $14,183 for paving.——Dallas, Tex., will issue $500,000 for good roads.——Bay City, Tex., will vote upon issuing $15,000 improvement bonds. County will soon vote upon issuing $60,000 county road improvement bonds.——$250,000 road improvement bonds may be issued by St. Louis, Mo.——Bids are asked until May 25 by Madisonville, O., for the purchase of street improvement bonds. J. A. Conant, Village Clk.

MANUFACTURING PLANTS.

AUGUSTA, ME.—The T. D. Warren Paper Co., Boston, Mass., will erect a mill on the Kennebec River for preparing pulp wood for shipment to their numerous plants.

ANSONIA, CONN.—A. T. Terrell, Secy. and Mgr., Ansonia Osborn & Cheesman Co., writes us that all contracts for their proposed improvements have been awarded save for electric lighting and power equipment. Lockwood, Greene & Co., Boston, are Archs.

NEW YORK, N. Y.—It is stated that the Rand Drill Co., 128 Broadway, is having plans drawn for an extensive enlargement of their works.

BUTLER, PA.—The Standard Plate Glass Co. is receiving bids for erecting brick casting house, 160 × 700 ft. Cost, $100,000.

PHILADELPHIA, PA.—Wm. Steele & Sons, 16th and Arch Sts., have plans posted for two factory buildings at 45th St. and Woodland Ave. Buildings are to be of brick, one story, 60 × 334 ft., and 22 × 284 ft. New power equipment and special machinery will be installed.——Philip H. Johnson, Arch., Fidelity Bldg., is making plans for a 4-story factory at 824 North American St., to be of brick, slow burning. New power equipment will be installed.——Plans are being made for a new 3-story shop building at Frankford Arsenal, to be of brick and stone and to cost $40,000.——Contract for erecting new plant of Hale & Kilbourn Co. has been let to John R. Wiggins & Co., Held Bldg., for $250,000. Lockwood, Green & Co., Engrs., Boston, Mass., have charge of all equipment.——Contract for factory for John J. Griffin & Co. has been let to Geo. F. Payne & Co., 401 South Juniper St. Building is to be of brick and steel, fireproof, five stories. Newhall Engineering Co., 138 South 4th St., has charge of the equipment.

PHILADELPHIA, PA.—Cornelius Valentine, Pres. Valentine Engineering Co., West End Trust Bldg., informs us that the new main buildings of the plant at Eddy will be about 465 × 250 ft., divided into four sections. They are to be built of steel with concrete-steel walls and slag roofing. The contract for these buildings has been let to the McClintock-Marshall Construction Co., Pottstown. The office building, pattern storage and stock shed have been contracted for by Wm. Provost, Jr., Chester. The power house is still to be contracted for. Plans for the same will be sent out in a few days. The electrical machinery is let to the Fort Wayne Electrical Co., and includes two 160-KW. D.-C. generators of 100 revs. per min., and two 60-HP. motors for the machine shop. It is proposed to equip the plant with three acid O. H. furnaces and one basic O. H. furnace, all to be 25-ton capacity each; same to be designed and built by Wm. Swindell & Bros., Pittsburg; also with three 200-HP. boilers and two 250-HP. Corliss engines; shop will contain 12 or 13 electric overhead traveling cranes, varying from 10 to 30 tons capacity. Plant will be in full operation by January, 1904.

PITTSBURG, PA.—The Heinz Pickle Co. will establish two pickle plants in North Carolina—at Clarkton and at Newbern.

WILMINGTON, DEL.—The contract for erecting the new plant for the Wilmington Malleable Iron Co., in South Wilmington has been let to the Tidewater Building Co., New York, for a total of about $300,000. The buildings to be constructed are as follows: Foundry, 1-story, 220 × 460 ft., $88,000; annealing house, 1-story, 220 × 460 ft., $80,000; carpenter shop, 1-story, 50 × 70 ft., $10,000; boiler house, 1-story, 55 × 80 ft., $15,000; pattern safe, 2 stories, 50 × 70 ft., $10,000; office, 2 stories, 40 × 70 ft., $8,000.

BALTIMORE, MD.—Contract for a brick 5-story, 20 × 60-ft. addition to factory of Lucas Bros. has been let to H. S. Rippel, 7 Clay St., for about $26,000.——Geo Esselman & Co., 204 Clay St., will soon let the contract for a new brick, 2-story, 100 × 180-ft. factory at Sharp and West Sts. New power equipment and special machinery will be installed.——Bids are asked by Sharp & Dohme, 301 West Water St., for a brick, slow-burning, 7-story, 66 × 80-ft. addition to their plant, to cost $70,000. New equipment and elevators will be installed.

RICHMOND, VA.—The Riverside Mills Co. is stated to be building a dam across the river above the city at a cost of $350,000 with a view to establishing a power plant and a cotton mill at the top of the plateau at a cost of $285,000.

PARKERSBURG, W. VA.—The Parkersburg Iron & Steel Co. will make additions to plant, including building of eight puddling furnaces, two charcoal furnaces, three cobbling furnaces, etc.

CARTERSVILLE, GA.—It is stated that the McClain Manufacturing Co., Greenfield, O., will erect a brick, 125 × 600-ft. cotton mill of a capacity of 5,000 spindles, at this place.

LEXINGTON, KY.—Sullivan & Congleton, Paris, Ky., are to convert a local canning factory into a large planing mill.

AKRON, O.—Plans are being prepared for 2-story addition, 50 × 75 ft., to B. F. Goodrich Co.'s machine department.

BUFFALO, O.—The United States Headlight Co. will erect a 2-story plant, 400 ft. long, of mill construction.

CINCINNATI, O.—The Norton & Cole Machinery Co., Norwood, will erect new $40,000 shop.

CLEVELAND, O.—The Pennsylvania Ry. Co. will erect a new roundhouse at Kinsman St. Cost, $100,000.

COLUMBUS, O.—The Sun Mfg. Co., Toledo, will erect brick fireproof factory at cost of $40,000.

MANSFIELD, O.—The Mansfield Engineering Co.'s new 75 × 175-ft. plant will require a 25-ton crane. Other improvements will be made.

MARTINS FERRY, O.—The Wheeling Steel & Iron Co. will erect a large plant on the site of the old plant.

SPRINGFIELD, O.—The American Seeding Machine Co. will erect a shop on Bridge St.

ROSEVILLE, O.—J. W. McCoy Co.'s pottery is reported to have been damaged by fire, with loss of about $50,000.

WELLSTON, O.—The Alma Cement Co. will erect cement mill on site of the old Alma Mill. B. B. Lathbury, Philadelphia, is interested.

YOUNGSTOWN, O.—Contracts will soon be let for erecting the Mahoning Brewing Co.'s plant.

ANDERSON, IND.—The Lavelle Foundry Co., will build a large brass foundry and factory in this city this season.

KOKOMO, IND.—The Pittsburg Plate Glass Co. is to build a large factory for making brick from the waste sand of the plate glass factory.

VINCENNES, IND.—Blackford Glass Co., Hartford City, will erect a 30-pot plant at cost of $80,000.

VINCENNES, IND.—The Blackford Window Glass Co. will build a 10-pot plant at a cost of $75,000.

CHICAGO, ILL.—It is stated that the stock of the Atlast Portland Cement Co., J. Rogers Maxwell, Pres., is to be increased by $2,500,000 and that this sum will be used to extend the business of the concern. The works are located at Copley and Northampton, Pa.

DELRAY, MICH.—The Chicago R. R. Equipment Co. will erect new factory, 60 × 300 ft., to manufacture pressed steel car bolsters.

DETROIT, MICH.—The Rowe-Stevens Mfg. Co. will erect new foundry, 175 × 500 ft., between Vinewood Ave. and 27th St.

MILWAUKEE, WIS.—The Cream of Wheat Co. will, it is stated, erect a 6-story warehouse and factory building, to cost when completed and equipped about $100,000.

MILWAUKEE, WIS.—The Northern Wire & Cable Co., incorporated with $300,000 capital, fully paid, will at once erect a plant in this city for the manufacture of lead-covered telephone, telegraph and power cables and wires, and are now in the market for the factory power equipment. J. B. Adams, Gen. Mgr., Wells Bldg., Milwaukee.

TRINITY, TEX.—Reports state that W. M. Cameron & Co. are to replace their saw mill, recently burned, with a $75,000 structure.

MISCELLANEOUS CONTRACTS.

FIRE ENGINE.—Revere, Mass.—Town has been considering purchase of $6,000 steam fire engine.

MUNICIPAL TELEPHONES.—Colton, Cal.—City is said to be taking steps for acquiring municipal telephone system.

STAMP MILL.—Sumpter, Ore.—The Alamo Mine will, it is said, have a stamp mill put in this summer. J. P. McGuigan is Supt.

STAMP MILL.—Deer Lodge, Utah.—It is stated that the Newport & Nevada Mining Co., E. H. Jackett, Mgr., will erect a 10-stamp mill.

PIER.—Baltimore, Md.—The Northern Central Railway will, it is said, erect a 935-ft. long by 120-ft. wide pier on the Canton water front.

WHARF.—National Soldiers' Home, Va.—Bids are asked until May 20 by the treasurer for renewal of wharf deck and rebuilding of wharf apron.

JETTY.—Providence, R. I.—The contract for constructing a jetty, the state appropriation, for which was $10,000, has been let to John Bristow.

DITCH.—Lincoln, Ill.—The contract for straightening Salt Creek, for which $75,000 will be spent, has been let to Pollard, Goff & Co., Champaign, Ill.

BREAKWATER.—Boston, Mass.—The contract for building a 900-ft. breakwater at the Isle of Shoals has been let to Geo. H. Keyes for about $30,000.

CULVERT.—Des Moines, Ia.—Bids are asked until May 18 for building a wooden culvert on Main St. and Hartford Ave. B. O. Hanger, Bd. Pub. Wks.

DITCH.—Warsaw, Ind.—The contract for the Turkey Creek ditch, the estimated cost of which is $43,827, has been let to John Hughes and Annanias Ipe.

SUBWAY.—Washington, D. C.—Bids are asked until May 21 for constructing a subway at the Government Hospital for the Insane. Thos. Ryan, Acting Secy.

CYANIDE.—Wilcox, Ariz.—The Cottonwood mine, F. Heilig, Mgr., is to install a cyanide plant. New power will be put in and five additional stamps as required.

GUN CARRIAGES.—Washington, D. C.—Bids will be called soon for 30 Buffington-Crozier sea-coast disappearing carriages for nickel 6-in. rifles of increased power.

MINING DEVELOPMENT.—Prescott, Ariz.—It is stated that the Hise Exploitation Co. is soon to begin the development of its mining property at Little Cripple Creek.

MECHANICAL STOKERS.—Cleveland, O.—Bids are asked until May 8 for mechanical stokers for two 75-HP. horizontal tubular boilers. Chas. P. Salen, Dir. Pub. Wks.

PILE REVETMENT.—Milwaukee, Wis.—Bids are asked until June 3 for building pile revetment at Two Rivers, Wis. Maj. J. G. Warren, U. S. Engrs. (See advertising columns.)

PORTLAND CEMENT.—Toronto, Ont.—Bids are asked until May 12 for furnishing supply of Portland cement required during year ending May 31, 1904. Thos. Urquhart, Mayor.

PORTLAND CEMENT, BROKEN STONE.—Norfolk, Va.—Bids are asked until May 27 for furnishing Portland cement and broken stone at Fort Ware, Va. (See advertising columns.)

CHEMICAL ENGINE.—Great Barrington, Mass.—The fire district has appropriated $1,850 for a chemical engine and $700 for a hook and ladder truck. John P. Norton is Chief Engr.

RIVER WORK.—New Orleans, La.—Bids are asked until June 30 for improving Southwest Pass of Mississippi River. Lt.-Col. H. M. Adams, U. S. Engrs. (See advertising columns.)

LUMBER, BOLTS, ETC.—Norfolk, Va.—Bids are asked at U. S. Engineer's Office until May 25 for furnishing piles, lumber, bolts, nuts, washers, nails and spikes at Fort Monroe, Va.

ROCK REMOVAL, ETC.—Norfolk, Va.—We are informed that no bids were received by the U. S. Engineer's Office, April 30 for rock removal and constructing riprap dam near Weldon, N. C.

SHAFTS AND TUNNEL.—Chicago, Ill.—Bids are asked until May 9 for constructing two shafts and a water pipe tunnel under the north branch canal at Division St. F. W. Blocki, Comr. Pub. Wks.

DRAINAGE DITCH.—Bristol, Ill.—A large drainage ditch is to be built in Kendall county; length, 6 miles; width on bottom, 12 ft; excavation, 150,000 cu. yds. C. A. Prout is Engr., Wheaton, Ill.

SPUR TRACK.—Chattanooga, Tenn.—Bids are asked until May 25 for constructing a complete spur track, 5,600 ft. long, at Chickamauga Park. Capt. H. J. Slocum, Q. M. (See advertising columns.)

STEEL HULL AND CABIN.—Grand Rapids, Mich.—Bids are asked until June 5 for constructing steel hull and cabin for suction dredges. Lt.-Col. M. B. Adams, U. S. Engrs. (See advertising columns.)

CYANIDE PLANT.—Deadwood, S. Dak.—It is stated that J. V. N. Barr, A. D. Wilson and others, who have been purchasing mining claims, will erect a cyanide plant near Terry, for the treatment of the ore.

MOVING SIDEWALK.—Augusta, Me.—Jos. Williamson, Jr., and A. M. Goddard are said to propose to construct a moving sidewalk or tramway for the conveyance of passengers from the railroad station to Winthrop Sq.

HARDWARE, PAINT, LUMBER, ETC.—New York, N. Y.—Bids are asked by the Commissioner of Correction, 148 East 20th St., until May 14 for furnishing hardware, paints, iron steam fittings, lumber, etc. Thos. W. Hynes, Comr.

BEACONS.—Mobile, Ala.—Bids are asked until May 30 for material and labor for beacons at East Pascagoula and East Pearl Rivers, Miss., and Punta Rassa, Fla. Capt. Wm. E. Craighill, U. S. Engrs. (See advertising columns.)

LIGHT-HOUSE.—Baltimore, Md.—Bids are asked until June 4 for constructing Baltimore light-house, metal work and construction to be let in separate contracts. See advertising columns. Col. W. A. Jones, U. S. Engrs., P. O. Bldg., Baltimore.

LAGOONS, CASCADES, ETC.—St. Louis, Mo.—Bids are asked until May 9 for completion of lagoons, cascades and approaches to Government Building at Louisiana Purchase Exposition. Isaac S. Taylor, Dir. Wks. (See advertising columns.)

BROKEN STONE, ETC.—Duluth, Minn.—Bids are asked until May 29 for furnishing 43,000 cu. yds. broken stone or 43,000 cu. yds. pebbles for concrete south pier, Superior, Wis. Capt. D. D. Gaillard, U. S. Engrs. (See advertising columns.)

LIGHT HOUSE PROTECTION.—Mobile, Ala.—Bids are asked until May 30 for material and labor for protecting Ship Island Light Station, Miss., and Pass Manchac Station, La. Capt. Wm. E. Craighill, U. S. Engrs. (See advertising columns.)

BOILERS.—New York, N. Y.—Bids are asked by the commissioner water supply, gas and electricity until May 19 for new boilers and appurtenances at pumping stations Nos. 1 and 3 and at Tottenville water-works. Robt. Grier Monroe, Comr.

MINING MACHINERY AND DEVELOPMENT.—Los Angeles, Cal.—It is stated that the Crystal Springs Mining Co., owners of the Tanquitz gold mines in the San Jacinto Mountains, are to spend $100,000 for machinery and further development. Ira L. Marmon is Supt.

LEVEE.—Grand Rapids, Mich.—Plans are reported as made for the levee to be built on the West Side to keep back the waters of Grand River. The dike is to cost about $10,000 and the pumping station will cost about $50,000. Louis W. Anderson is Cy. Engr.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CUTTING TIMBER AND CLEARING GROUNDS.—New York, N. Y.—Bids are asked by the Aqueduct Commissioners, 280 Broadway, until May 19 for cutting timber and clearing grounds on the Croton River division of the New Croton Reservoir. Wm. H. Ten Eyck, Pres.

DREDGE.—Sacramento, Cal.—Contract for a dredge for reclamation district No. 537, Chas. Neil, Trustee, has been let to the Golden Gate Iron Works for $47,000. About 3,000 acres of land will be improved and an assessment of $72,000 has been levied for the improvement.

GYMNASTIC APPARATUS.—New York, N. Y.—Bids are asked by the Park Board, Arsenal Bldg., until May 14 for gymnastic apparatus for gymnasium and playgrounds in East River Park, Corlears Hook Park and Tompkins Square Park; also for Hamilton Fish Park. Wm. R. Willcox, Comr.

COMBINED MINING MILL.—Spokane, Wash.—We are informed that plans for a combined amalgamation and cyanide mill for the Bodie Mining Co., have been prepared by C. M. Fassett. We are also informed that contracts for machinery has not been let, but will probably go to a local firm.

DREDGING.—Charleston, W. Va.—We are informed that the Kanawha & Hocking Coal & Coke Co. would like bids at an early date on 15,000 cu. yds. dredging in this harbor at Longacre and Harewood, W. Va. The company is building coke ovens and river tipples. N. D. Monsarrat, Ch. Engr., Columbus, O.

FERRY IMPROVEMENTS.—New York, N. Y.—It has been announced that the Delaware, Lackawanna & Western Ry. Co. has purchased the properties of the New York & Hoboken Ferry Co. and will renovate the entire ferry service, building new terminal and boats and establishing New York stations.

IRON ORE DEVELOPMENT.—Denver, Colo.—It is stated that the Colorado Fuel & Iron Co. is preparing to spend $500,000 in developing the iron business in Wyoming. The company intends to build a $35,000 steel head frame for automatically handling the ore, an ore crusher and a $30,000 railroad. Large ore beds will be opened near Sunrise, Wyo. J. A. Nebler is Pres.

CANAL.—Buffalo, N. Y.—Plans have been made and submitted to Maj. Thomas W. Symons, U. S. Engrs., for a canal to be constructed here by the Pennsylvania R. R. Co. and the Buffalo & Susquehanna Iron Co. The canal will be one mile long, 200 ft. wide and 23 ft. deep, and will cost about $1,000,000. It is said that the railroad company will use its canal frontage for the construction of coal and ore docks.

LOCK GATES, ETC.—Nashville, Tenn.—We are informed that the following bid was received April 22 for constructing four pairs steel lock gates and filling valves, as advertised in Engineering News: Capt. W. J. Bardeen, U. S. Engrs.: Penn Bridge Co., Beaver Falls, Pa., 2 pairs steel gates at lock "A," $30,400; filling valves, etc., at lock "A," $3,500; 2 pairs steel gates, lock No. 1, $23,400; filling valves, etc., lock No. 1, $3,500.

BOILERS, PUMPS, RAILS, LOCOMOTIVES AND SUPPLIES.—Wells, Delta county, Mich.—The Mashek Chemical & Iron Co. reports that it is putting in a charcoal and alcohol plant, and will require boilers of 750 HP., a pumping plant of 2,000,000 gallons daily capacity, with 2,000 ft. of 12-in. intake. Also 20 and 40-lb. rails, a 25 to 30-ton geared locomotive and a large quantity of cement, firebrick, piping and steam fittings. Geo. M. Mashek, Pres. and Mgr.

MINING WORK.—Salt Lake City, Utah.—Reports from this city state that the O. K. mine, Dale, Cal., is to be equipped with a stamp mill and cyanide plant; that the Longfellow mine, Big Oak Flat, Cal., is to be equipped with a 30-stamp mill; that a mill, to be electrically operated, is to be erected for the Lizzard Mine, Virginia City, Nev.; that the Afterthought mine, Bella Vista, Cal., may be equipped with 150-ton smelter this season, and that the Milwaukee Mining & Milling Co., operating near Rosamond, Cal., will soon build reduction works.

U. S. POSSESSIONS AND CUBA.

BUILDINGS.—Alaska.—Albert Derens, Tacoma, Wash., was the lowest bidder on April 20 on the new building at Juneau, at $50,000.

REMOVING WRECKS.—Havana, Cuba.—Bids are wanted by the Treasury Department, Havana, until June 12, for removing the wrecks of the "Maine" in Havana Bay, the "Alfonso XII.," in Bariel Bay, and those of the Spanish warships which were sunk at Santiago de Cuba and at Manzanillo.

PACKING PLANT.—Alaska.—The Alaska Peninsula Packing Co. is preparing to erect a large cannery at Herendeen Bay, on the north side of Alaska peninsula, at the entrance of Bristol Bay. The new company is capitalized at $2,750,000. Julian M. Platz, Reginald H. Schneck and K. K. McLaren, New York, are incorporators.

FOREIGN CONTRACTS—EXPORT NEWS

SEWAGE PUMPING PLANT.—Chiswick, Eng.—Bids are asked until May 20 for erecting a sewage pumping plant, a disposal plant and other buildings. Ernest F. Collins, Clk. Council.

STEAMER.—Dublin, Ireland.—Bids are asked until May 14 for constructing a twin-screw steel steamer, 192 ft. by 30 ft. by 14 ft. 10½ ins. Owen Armstrong, Secy. Comrs. Irish Lights.

LIGHTING AND WATER SUPPLY.—Roumania.—Bids will be received by the mayor of Constantza (Kustendjile) until May 11 for supplying that town with lighting and water supply systems.

TELEPHONE SYSTEM.—Spain.—The Directorate-General of Posts and Telegraphs, Coretas 10, Madrid, will receive bids for the concession to establish a telephone system in the town of Elbar.

SEWERAGE.—Newport, Isle of Wight.—Bids are asked until May 14 for supplying 4,150 ft. of 18 to 5-in. c.-i. sewer main; for constructing about 10 miles of c.-i. and stoneware pipe sewers from 18 to 7 ins. in diameter, and an 18-in. c.-i. outfall sewer into the Solent. H. Eldridge Stratton, Clk. Council, Pyle St. Newport.

RAILWAY.—Guatemala.—James McNaught, of McNaught & Searle, 35 Nassau St., New York; A. Hollander, 2 Wall St.; W. L. Lyons, of Louisville, Ky., and W. Godfrey Hunter, formerly U. S. Minister to Guatemala, have sailed for London, for the purpose of completing the financial arrangement for the construction of the Guatemala Northern R. R. and placing contracts for rails, bridges and steel viaducts. This will be the completion of the project undertaken by the Guatemalan Government several years ago to build a road from Puerto Barrios, on the Bay of Honduras, to Guatemala City. It was built as far as El Rancho, 135 miles from Puerto Barrios, at a cost of $3,500,000, but for financial reasons was not completed the remaining 67 miles. The Central American Improvement Co., capitalized at $5,000,000, will build the remaining section. While in Europe contracts will be placed by Mr. McNaught for about 50 miles of steel rails, 2,200 ft. of bridges and 1,940 ft. of steel viaduct; also for steamers to run between Puerto Barrios and a port in the United States in the Gulf of Mexico. Extensive docks are to be built at Puerto Barrios, and a large hotel is planned for that port and another for Guatemala City. James P. McDonald & Co., 35 Nassau St., New York, have the contract for construction and are now at work. Mr. McNaught is Pres. of the new road.

MEXICO.

BANK BUILDING.—The Bank of London and Mexico is preparing to erect a bank building here.

FACTORY.—City of Mexico.—H. H. Adler, Monterey, an American, is preparing to establish a trunk factory here. About $50,000 will be invested.

CLUB BUILDING.—City of Mexico.—The American Club of this city has approved plans for a new building which it will occupy, to cost about $100,000.

ICE PLANT.—Monclova.—The state government has granted a concession to Cecilio Paez for an ice plant here to cost $10,000. Work will soon commence.

HYDRAULIC PLANT.—Queretaro.—The Compania Exploadora del Teguisguiapam will build a hydraulic plant on the Teguisguipam River to generate power for operating the interurban railway between Queretaro and Teguisguipam.

OIL LAND DEVELOPMENT.—Mexico City.—Leon De La Bawa, of this city, is developing petroleum land at the Hacienda de Aragon, on northern city limits, and will require considerable oil-well machinery. The Compania Exploradora de Anahuac and the Mexican Artesian Well Co. will also be in the market for machinery, etc., for developing lands near this city.

RAILWAY.—State of Michoacan.—Reports from Trenton, N. J. (U. S. A.), state that Wm. A. Buckman, George Buckman, Charles W. Heath, and W. A. Holcombe, of that city, are interested in the Morelia & Tacambaro R. R., which, after two years of delay in the work of constructing the road, has obtained a subvention of $1,500,000 from the Mexican Government. The contract for the road has been let to Powell & Mason, Baltimore, Md., and is valued at about $2,000,000. The line will run through the State of Michoacan; equipment will comprise six locomotives, six passenger coaches and 500 freight cars; 60-lb. steel rail will be used.

ENGINEERING MATERIAL PRICES

TRACK FASTENINGS—

New York quotations at mill—Steel splice bars, 1.75 to 1.80 cts.; spikes, 1.85 to 2 cts.; bolts, square nuts, 2.65 to 2.70 cts.; hexagon nuts, 2.75 to 2.85 cts.

Chicago—At mill.—Steel splice or angle bars, 2 to 2.25 cts.; spikes, 2.10 to 2.25 cts.; bolts, square nuts, 3½ to 3¾ ins. and larger, 2.85 to 3 cts.; hexagon nuts, 3 to 3.25 cts.

RAILS, STEEL—

$33.50; old iron, f. o. b. New York, $23.50 to $24; old steel, f.o.b. New York, $19.50 to $20.50; relayers, $25 to $27.

Chicago—New, $28, standard sections; second quality, $27 (at mill); light rails, $35 to $40, according to

New York—At mill.—New, $28 (heavy); girder, $38 to weight; old iron $24.50 to $24.75; old steel, mixed lengths, $18.50 to $19; old steel, long lengths, $22 to $22.25; heavy relaying, $31.50 to $32.

Pittsburg—At mill.—Standard section, $28, in 500-ton lots and over; old iron, $25; old steel, $21 to $21.50.

STRUCTURAL MATERIALS—

New York—At tide water.—Beams, 1.75 to 2 cts.; channels, 1.75 to 2 cts.; tees, 1.80 to 2 cts.; angles, 1.75 to 2 cts.; zees, 1.75 to 2 cts.

Chicago—At mill.—Beams, channels and zees, 15 ins. and under, 1.75 to 1.90 cts.; 18 ins. and over, 1.85 to 2 cts.; tees, 1.80 to 1.90 cts.; angles, 1.75 to 1.90 cts., at local yards, beams and channels, 2.25 to 2.50 cts.; angles, 2.25 to 2.50 cts.; tees, 2.30 to 2.55 cts.

Pittsburg—Beams and channels, up to 15-in., 1.60 cts.; over 15-in., 1.70 cts.; tees, 1.60; zees, 1.60 cts.; angles, 3×2 up to 6×6 ins., 1.60 cts.

PLATES AND SHEETS—

New York—At tide water.—Universal plates, 1.78 to 1.80 cts.; tank, 2 cts.; flange, 2.10 cts.; marine, 2.20 cts.; firebox, 2.85 cts.

Chicago—F.o.b. Chicago, Universal mill plates, 2 to 2.25 cts.; tank, ¼-in. and heavier, 1.75 to 2 cts.; flange, 1.85 to 2.15 cts.; marine, 1.95 to 2.10 cts.; local stock, quick shipments, f.o.b. Chicago—Tank, 3-16-in., 2.25 to 2.50 cts.; No. 8, 2.30 to 2.40 cts.; flange, 2.40 to 2.50 cts.

Pittsburg, f. o. b.—Universal mill and sheared plates, 1.60 to 1.70 cts.; tank ¼-in. and heavier 100 ins. wide, 1.60 cts. at mill, Pittsburg; flange and boiler steel, 1.70 cts.; marine ordnance firebox, 1.80 cts.; still bottom, 1.90 cts.; locomotive firebox, 2.10 to 3 cts.; sheets, Nos. 22 and 24, box annealed, 2.45 cts., No. 26, 2.55 cts.; No. 27, 2.65 to 2.75 cts.; No. 28, 2.75 to 2.80 cts.; galvanized sheets, No. 27, 3.80 cts.; No. 28, 4.04 cts. Plates over 100 ins. wide, 5 cts. extra per 100 lbs.; 3-16-in. thick, $2 extra; Nos. 7 and 8, $3 extra; No. 9, $5 extra.

MERCHANT STEEL—

Chicago—At mill.—Machinery, smooth finished, 2.01½ to 2.11½ cts.; tire, smooth finished, 1.96½ to 2.11½ cts.; spring, open-hearth, 2.66½ to 2.76½ cts.; tool, crucible, ordinary grades, 6½ to 8 cts.; specials, 12 cts. up.

Pittsburg—At mill.—Steel bars, 1.60 cts., half extras.

IRON—

Pig Iron:

New York—Northern foundry, No. 1, X, $22 to $22.50; No. 2 X, $20.75 to $21.75; Gray forge, $20.25 to $21; Southern foundry, No. 1, $21.50 to $23.50; No. 2, $20.50 to $22.75; No. 3, $20 to $21.50; No. 4, $19.50 to $21; soft No. 1, $21.50 to $22.75; No. 2, $20.50 to $22.

Chicago—F. o. b. Chicago.—Lake Superior charcoal, $25 to $26; local coke foundry, No. 1, $23.30 to $23.80; No. 2, $22.80 to $23.30; No. 3, $21.50 to $22; local Scotch, No. 1, $23 to $23.50; Ohio strong softeners, No. 1, $25.80 to $26.50; Southern Silvery, $23.35 to $25.35; Southern coke, No. 1, $21.50 to $22; No. 2, $20.85 to $21.85; No. 3, $20.35 to $20.85; No. 1, soft, $21.50 to $22; No. 2, soft, $20.85 to $21.35; foundry forge, $19.85 to $20.35; Southern Gray forge, $19.35 to $19.85; mottled, $19.35 to $19.85; charcoal softeners, $25.85 to $27.85; Alabama and Georgia car wheel, $29.35 to $30.35; malleable Bessemer, $21.50 to $22; standard Bessemer, $21.75 to $22; Jackson county and Kentucky Silvery, 6 to 8% silicon, $30.30 to $31.30.

Pittsburg—Basic, $19.50 to $20; Bessemer, third quarter, $19.50 to $19.65 at furnace; Northern, forge iron, $20.25; Southern, $19.85; foundry, Southern No. 2, $16.50; Birmingham, $21.35; Pittsburg, Northern No. 2, prompt shipment, $21.50.

Bar Iron:

New York—Refined, on dock, 1.85 to 1.90 cts.; common, on dock, 1.75 to 1.80 cts.

Chicago.—f. o. b. Chicago, mill shipment, 1.80 to 1.90 cts.; soft, 1.76½ to 1.86½; hoops, 2.16½ to 2.26½ cts.; angles, under 3 ins., 1.86½ to 1.91½ cts., base in small lots.

Pittsburg.—1.85 to 1.90 cts., in carload lots; 1.95 in small lots.

GENERAL MATERIALS—

Lead, spot, New York, 4.67½ cts.; St. Louis, 4.20 cts. 4.25 cts.

Spelter, New York, spot, to May, 5.75 cts.

Copper, spot to May, Lake, 14.75 to 15 cts.; electrolytic, 14.75 to 15 cts.; casting, 14.50 to 14.75 cts.

Tin, New York, spot and May, 30.10 to 30.30 cts.

LUMBER—

New York:

Hemlock, Penn., joists, 12 to 40 ft., $16.50 to $24.50 per M.; boards, 13 to 16 ins., $18 to $19.50.

Yellow pine, random cargoes, sail deliveries, N. Y. $20 to $21.

PUBLICATIONS RECEIVED.

AMERICAN RAILWAY ASSOCIATION.—Proceedings from April 12, 1899, to Oct. 22, 1902, inclusive. New York: The American Railway Association. Half leather; 9 × 12 ins.; pp. 1,071; tables. $5.

THE GAS ENGINE HAND-BOOK.—A Manual of Useful Information for the Designer and the Engineer. By E. W. Roberts, M. E. Fourth Edition, Revised and Enlarged. Cincinnati, O.: The Gas Engine Publishing Co. Leather; 4 × 5 ins.; pp. 264; 40 illustrations in the text. $1.50.

THE MANUAL OF STATISTICS.—Stock Exchange Hand-Book for 1903. New York: The Manual of Statistics Co. Cloth; 6 × 8 ins.; pp. 1,044; tables and folding maps. $5.

EXPERIMENTS ON THE FLEXURE OF BEAMS.—Resulting in the Discovery of New Laws of Failure by Buckling. By Albert E. Guy. New York: D. Van Nostrand Co. London: Crosby, Lockwood & Son. Cloth; 6 × 8 ins.; pp. 122; tables on folding sheets, and 31 illustrations in the text. $1.25 net.

BRITISH STANDARD SECTIONS.—Issued by The Engineering Standards Committee, Supported by the Institutions of Civil, Electrical and Mechanical Engineers, the Institution of Naval Architects, and the Iron and Steel Institute. Leslie S. Robertson, M. Inst. C. E., Secretary. New York: D. Van Nostrand Co. Paper, 9 × 15 ins.; pp. 9; tables and diagrams. $1.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 25, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m. on the 1st day of June, 1903, and then opened, for the construction (excepting heating apparatus) of the extension of the U. S. Court House, Post Office, etc., at Montgomery, Ala., in accordance with drawings and specification, copies of which may be had at this office, or at the office of the Custodian at Montgomery, Ala., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 23, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m. on the 4th day of June, 1903, and then opened, for the construction (including plumbing and heating apparatus) of the U. S. Post Office, etc., extension at Scranton, Pa., in accordance with drawings and specification, copies of which may be had at this office, or at the office of the Custodian, at Scranton, Pa., at the direction of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

FORT SLOCUM, N. Y.—Sealed proposals, in triplicate, for constructing Garbage Crematory here will be received until 11 o'clock a. m., May 1, 1903. U. S. reserves right to reject or accept any or all proposals. Envelopes to be marked, "Proposals for Garbage Crematory." Further information can be obtained by applying to the undersigned. EDWARD T. DONNELLY, 1st Lieut., Artillery Corps, Quartermaster. 18-1t

FORT TOTTEN, N. Y., April 20, 1903.—Sealed proposals, in triplicate, for Grading and for Constructing Roads and Sidewalks here will be received until 2 p. m. May 18, 1903. Information furnished upon application. U. S. reserves right to reject or accept any or all proposals, or any part thereof. Envelopes containing proposals should be endorsed "Proposals for Grading and for Constructing Roads and Sidewalks," addressed C. K. MOWER, 1st Lieut., Q. M. 18-3t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 28, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 10th day of June, 1903, and then opened, for the alterations to the U. S. Custom House, at St. Paul, Minn., in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Custodian at St. Paul, Minn., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

GOVERNOR'S ISLAND, N. Y., April 23, 1903.—Sealed proposals, in triplicate, will be received here until 11 a. m., May 13, 1903, for laying 6-in. Water Main, Governor's Island, with proper connections to buildings. U. S. reserves right to reject any or all bids. Information furnished on application. Envelopes containing proposals should be marked "Proposals for Water Main," addressed T. NORMAN, Q. M. 18-2t

For Proposals see pages XXXI., XXXII., of Advertisements and pages 260, 261 of Supplement.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ARTESIAN WELL PUMPING PLANT.

RE-ADVERTISEMENT.

Atlantic City, N. J.

Sealed proposals will be received by the Board of Water Commissioners of Atlantic City, N. J., until 3:30 p.m., May 12, 1903, for installing a plant for pumping 3,000,000 gallons per day from 12 Artesian Wells.

Specifications are drawn up and contract will be let, either for:

1.—(a) Installing an Air-Lift Plant;
(b) Laying Vitrified Clay Discharge Mains;

or else for:

2.—(c) Installing a Centrifugal Pump Plant, with impulse wheel or electric motor;
(d) Laying a Suction Main.

The work will be let under two contracts (a and b, or c and d). Contractors for the whole work must name prices under each of the divisions, or their bid will be considered informal.

Each bid MUST BE ACCOMPANIED BY A CERTIFIED CHECK FOR TWO HUNDRED DOLLARS, which will be returned to the successful bidder the first of the month after commencing work, or forfeited if he fails to enter into and execute the contract awarded him; in which case the Board may accept any other bid made. All other checks will be retained until the contract is signed, when they will be returned.

As proper security for the proper performance of the work, a bond acceptable to the Board in the sum of six thousand ($6,000.00) dollars in the case of the Pumping Plant (Contracts a or c) and of two thousand ($2,000.00) dollars in the case of the Discharge or Suction Mains (Contracts b or d), will be required and this amount shall be properly inserted in the contract.

Plans and specifications may be seen at the office of the Water Department of Atlantic City, N. J., or at the office of Engineering News Publishing Co., 220 Broadway, N. Y.

The Board reserves the right of accepting the bid on any one division of the work, or of rejecting any or all bids.

LOUIS KUEHNLE,
RUFUS BOOYE,
JAMES PARKER,
Commissioners.

KENNETH ALLEN, Engr. and Supt. 19-1t

WATER-WORKS.

Greene, N. Y., May 4th, 1903.

Sealed proposals will be received by the Board of Trustees of the Village of Greene, Chenango county, N. Y., until 7 o'clock p.m. of Tuesday, May 19th, 1903, for furnishing the following approximate quantities of materials and performing the labor necessary for the construction and completion of a Gravity Water-Works System for said Village, according to the plans and specifications for the same prepared by Edgar B. Kay, Engineer, Ithaca, N. Y. The plans can be seen at the office of the Board or of the Engineer and specifications can be obtained on application.

The Board of Trustees reserve the right to reject any or all proposals or to accept any that in their judgment will be for the best interests of the Village. All bids must be accompanied by a certified check or certificate of deposit, payable to the order of the Treasurer of the Village of Greene, N. Y., in the sum of 5% of each bid, to be forfeited to the Village of Greene, N. Y., as liquidated damages in case he or they shall fail to enter into contract in accordance with the proposal, should the proposal be accepted by the Board of Trustees. An approved bond will be required of the successful bidder or bidders in a sum of not less than 25% of the total amount of the contract price.

All bids to be addressed to the Board of Trustees, Village of Greene, N. Y., and endorsed with the bidder's name on the outside of the envelope, and marked "Proposal."

Amount of Materials and Work.

36 double-nozzle fire hydrants; 27 4-in., 7 6-in., and 5 8-in. gate valves, 39 valve boxes, 7,000 ft. of deep socket 6-in. terra cotta pipe or 7,000 ft. of 6-in. spiral riveted water pipe; 50,500 ft. of pipe line work, including hauling of pipe, trenching, furnishing of lead and yarn, pipe laying and refilling of trenches, etc.; the construction of a receiving basin (capacity 25,000 galls.); the construction of a concrete reservoir of 400,000 gallons capacity.

By order of the Board of Trustees of the Village of Greene, N. Y.

MATA L. COWLES,
Clerk of the Board.
19-2t

U. S. ENGINEER OFFICE, Custom House, New Orleans, La., April 30, 1903.—Sealed proposals for improving the Southwest Pass of the Mississippi River will be received here until 12 o'clock noon, June 30, 1903, and then publicly opened. Information furnished on application. H. M. ADAMS, Lieut.-Col., Engrs. 19-2t 25-2t

SEWERAGE SYSTEM.

Fair Haven, Vt., May 5, 1903.

Sealed proposals will be received by the Sewer Commissioners of the Village of Fair Haven, Vt., for the furnishing of all materials in, and the construction of, a System of Sewers, in said Village, in accordance with plans and specifications prepared by H. M. Geer, C. E., Ballston Spa, N. Y.

All bids shall be addressed to the "Secretary of the Sewer Commission," of the Village of Fair Haven, Vt., and shall be presented in time to be publicly opened at a meeting of said Commissioners, to be held at their office, in said Village, at 1:30 o'clock in the afternoon, on Friday, the 22d day of May, 1903.

Printed copies of the specifications and proposal may be obtained upon application to the undersigned.

The right is reserved to reject any or all proposals.

FRANK R. ALLEN,
Secretary of Sewer Commission,
19-2t Fair Haven, Vt.

BRICK SEWER.

Wilmington, Del.

Sealed proposals will be received by the Board of Directors of the Street and Sewer Department of Wilmington, Del., up to 10 o'clock a.m., Friday, May 22d, 1903, for the construction of Prices Run Sewer and Branch, consisting of approximately 6,600 ft. of brick and concrete sewer from 4' 9" in diameter to 9' 3" in diameter.

A certified check for one thousand ($1,000) dollars, drawn payable to the Board of Directors of the Street and Sewer Department, will be required of each bidder which will become forfeited to the said Board if the bidder to whom the contract is awarded fails to execute the contract and furnish satisfactory corporate surety equal to one-third of contract price within ten days after date of notice of such award.

Blank forms of proposals, specifications and contract will be sent upon application, and plans may be seen at the office of

T. CHALKLEY HATTON,
19-2t Consulting Engineer.

PAVING.

Oil City, Pa.

Sealed proposals will be received at the Controller's Office, Oil City, Pa., until 4 p.m., Monday, May 11, 1903, for the following municipal improvements:

Smedley St., grading and paving the gutters; bond, $800.
Hoffman Ave. improvement; bond, $4,000.
Main St. repaving; bond, $2,000.

Specifications may be seen at the City Engineer's office, and all bids must be made on blanks furnished by the City Engineer.

The City reserves the right to reject any or all bids 19-1t

S. W. BARNHART, Controller.

NOTICE TO TUNNEL CONTRACTORS.

Sealed proposals, marked "Bid for Tail-Race Tunnel." will be received by the undersigned until noon, May 11th, 1903, for the construction of a Tail-Race Tunnel for the Toronto & Niagara Power Co., of Toronto, Ontario. Plans and specifications for this work are on file and can be seen after March 30th, 1903, at the Company's offices, at Home Life Building, Toronto, Ontario, and Niagara Falls, Ontario, or office of F. S. Pearson, No. 29 Broadway, New York, Room 220. The right is reserved to reject any or all proposals.

FREDERIC NICHOLLS,
Vice-President and General Manager.
14-6t Home Life Bldg., Toronto, Ont.

WATER PIPE AND CASTINGS.

Holyoke, Mass.

Sealed bids for furnishing 600 tons of 20-in. Cast-iron Pipe and Special Castings will be received by the Board of Water Commissioners, of the City of Holyoke, Mass., until 7:30 p. m. o'clock of the 11th day of May, 1903. Detailed information and proposal blanks will be sent to the bidders on application to the Engineer. The Board of Water Commissioners reserves the right to reject any or all bids.

JOHN J. SULLIVAN,
ARTHUR M. FRENCH,
HUGH McLEAN,
Water Commissioners.

JAMES L. TIGHE, Engineer, City Hall. 18-2t

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., April 25, 1903.—Sealed proposals for furnishing and delivering piles, lumber, bolts, nuts, washers, nails, and spikes, at Fort Monroe, Va., will be received here until 12 m., May 25, 1903, and then publicly opened. Information furnished on application. 19-2teow

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., April 25, 1903.—Sealed proposals for furnishing and delivering Portland Cement and Broken Stone at Fort Wool, Va., will be received here until 12 m., May 27, 1903, and then publicly opened. Information furnished on application. 19-2teow

CONTRACTORS TAKE NOTICE!

One Million Dollars Worth of Good Roads Work

In New York State will soon be advertised in this paper.

ENQUIRE STATE ENGINEER, ALBANY, N. Y. 18-2t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Fifth District, Post Office Building, Baltimore, Md., until 12 o'clock m., June 4, 1903, and then opened, for furnishing materials and labor of all kinds necessary for the completion and delivery of the Metal Work for the Baltimore Light-House, Md., in accordance with specifications and drawings, copies of which, with blank proposals and other information, may be had upon application to Col. W. A. JONES, U. S. A., Engr. 19-1t

PROPOSALS FOR CONSTRUCTION.—Office of Constructing Quartermaster, Chattanooga, Tenn., May 5, 1903.—Sealed proposals, in triplicate, will be received at this office until 11 o clock a. m., May 25, 1903, and opened then for constructing at Chickamauga Park, Ga., a Spur track complete, about 5,600 ft. in length. Plans and specifications may be seen, and blank proposals with full instructions had, upon application here. United States reserves the right to accept or reject any or all proposals or any part thereof. H. J. SLOCUM, Captain, U. S. Cavalry, Quartermaster. 19-2t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m., May 30, 1903, and then opened for furnishing all materials and labor necessary for constructing and erecting Beacons at East Pascagoula and East Pearl Rivers, Miss, and at Punta Rassa, Fla., in accordance with specifications, copies of which, with blank proposals and other information, may be had on application to Capt. WILLIAM E. CRAIGHILL, U. S. A., Engineer 7th and 8th Light-House Districts. 19-4t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m., May 30, 1903, and then opened for furnishing all materials and labor necessary for Protecting Ship Island Light Station, Miss., and Pass Manchac Light Station, La., in accordance with specifications, copies of which, with blank proposals and other information, may be obtained on application to Capt. WILLIAM E. CRAIGHILL, U. S. A., Engineer 8th Light-House Dist. 19-4t

U. S. ENGINEER OFFICE, Grand Rapids, Mich., May 6, 1903.—Sealed proposals for constructing Steel Hull and Cabin for Suction Dredge, will be received here until 3 p.m., June 5, 1903, and then publicly opened. Information furnished on application. M. B. ADAMS, Lieut-Col., Engrs. 19-4t

U. S. ENGINEER OFFICE, Duluth, Minn., April 29, 1903.—Sealed proposals for furnishing 43,000 cu.yds. broken stone, or 43,000 cu. yds. pebbles for Concrete South Pier at Superior Entry, Wis., will be received here until noon May 29, 1903, and then publicly opened. Information on application. D. D. GAILLARD, Capt., Engrs. 19-3t

U. S. ENGINEER OFFICE, Milwaukee, Wis., May 4, 1903.—Sealed proposals for building Pile Revetment at Two Rivers Harbor, Wis., will be received here until 3 o'clock p.m., June 3, 1903, and then publicly opened. Information furnished on application. J. G. WARREN, Major, Engrs. 19-4t

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., April 25, 1903.—Sealed proposals for Dredging Nansemond River, Va., will be received here until 12 m., May 25, 1903, and then publicly opened. Information furnished on application. 18-2t-eow

U. S. ENGINEER OFFICE, New London, Conn., Apr. 14, 1903.—Sealed proposals, in triplicate, for Dredging in New London Harbor, New London, Conn., will be received here until 12 noon, May 15, 1903, and then publicly opened. Information on application. CHAS. F. POWELL, Maj., Engrs. 16-4t

U. S. ENGINEER OFFICE, Army Building, New York, April 15, 1903.—Sealed proposals for dredging in Hudson River and Saugerties Harbor, N. Y., will be received here until 12 m. May 15, 1903, and then publicly opened. Information on application. AMOS STICKNEY, Col., Engrs. 16-4t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 27, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 8th day of June, 1903, and then opened, for the general construction of the U. S. Post Office, Custom House and Court House, at Cleveland, O., in accordance with the drawings and specifications, copies of which may be had, at the discretion of the Supervising Architect, on application to this office, or the office of the Architect, Arnold W. Brunner, 33 Union Square, West, New York, N. Y. Application must be accompanied by a certified check for $250, which will be held at this office until the return of drawings and specifications. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

IMPROVEMENT OF DELAWARE RIVER.—U. S. Engineer Office, Philadelphia, Pa., April 21, 1903.—Sealed proposals for removing rock and overlying and adjacent material in Delaware River at Schooner Ledge will be received here until 12 o'clock noon, May 22, 1903, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col., Engrs. 17-4t

OFFICE OF THE ENGINEER IN CHARGE IMPROVEMENT OF THE PORT.—Manila, P. I., February 15, 1903.—Sealed proposals for constructing an additional Breakwater at Manila, P. I., will be received at this office until 11 o'clock a. m., June 15, 1903, and then publicly opened. Work to be done includes about 450,000 tons of 2,240 lbs. each, of rock filling, in water of approximately 30 ft. depth. Bids must be accompanied by a bond of $50,000 U. S. currency. One contract will be made for the whole work. Contractor's bond will be for 10% of the amount bid. The right is reserved to reject any or all bids. For specifications and blank forms, apply to this office, the U. S. Engineer Office, Room "H," Army Bldg., New York City, N. Y.; the U. S. Engineer Office, 1637 Indiana Ave., Chicago, Ill.; or the U. S. Engineer Office, Room 41, Flood Bldg., San Francisco, Cal. CLINTON B. SEARS, Major, Corps of Engrs., U. S. Army, in Charge. 11-9t

PROPOSALS FOR THE CONSTRUCTION OF SECTIONS B AND C OF THE B ST. AND NEW JERSEY AVE. TRUNK SEWER.—Office of the Commissioners, D. C., Washington, D. C., April 23, 1903.—Sealed proposals will be received at this office until 12 o'clock m., June 6, 1903, for constructing Sections B and C of the B St. and New Jersey Ave. Trunk Sewer in the District of Columbia. Forms, specifications and necessary information may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D.C. 17-4t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Tompkinsville, N. Y., until 1 p. m., Thursday, May 28th, 1903, and then opened, for furnishing the material and labor necessary for the completion and erection of an Oil House at the General Light-House Depot, Tompkinsville, N.Y., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Maj. WILLIAM T. ROSSELL, U. S.A., Engineer Third Light-House District. 18-2t

U. S. ENGINEER OFFICE, Wheeling, W. Va., April 22, 1903.—Sealed proposals for furnishing and delivering irons for Lock for Dam No.18, Ohio River, will be received here until 11 a. m. (Eastern time), May 21, 1903, and then publicly opened. Information furnished on application. GEO. A. ZINN, Major, Engrs. 17-4t

U. S. ENGINEER OFFICE, Rock Island, Ill., April 27, 1903.—Sealed proposals for construction and repair of Dams and Shore Protections between Bellevue and Le Claire, Ia., between Rock Island, Ill., and Burlington, Ia., and between Burlington, Ia., and Hannibal, Mo., will be received here until 11 a. m., May 27, 1903, and then publicly opened. Information on application. JAS. L. LUSK, Major, Engrs. 18-4t

U. S. ENGINEER OFFICE, Pittsburg, Pa., April 23, 1903.—Sealed proposals for building and erecting in place Two Steel Lock Gates at Lock Six, Ohio River, Merrill, Pa., will be received at this office until 12 m., May 13, 1903, and then publicly opened. Information furnished on application. WM. L. SIBERT, Capt., Engrs. 18-3t

U. S. ENGINEER OFFICE, Army Building, New York, April 25, 1903.—Sealed proposals for Dredging and Rock Removal in East River, N. Y., will be received here until 12 m., May 25, 1903, and then publicly opened. Information on application. AMOS STICKNEY, Col., Engrs. 18-4t

U. S. ENGINEER OFFICE, 25 Pemberton, Square, Boston, Mass., April 23, 1903.—Sealed proposals for Rock Excavation in Boston Harbor, Mass., will be received here until noon, May 26, 1903, and then publicly opened. Information furnished on application. W. S. STANTON, Lieut.-Col., Engrs. 17-3t 21-1t

FOR SALE

Advertisements That Bring *Results*

THE Manager of a Company that advertised railway equipment for sale in *one* issue of ENGINEERING NEWS wrote to the Secretary of the same Company that the last, and in fact their first, "For Sale" advertisement with us, had **"brought quite a few inquiries."** A small "For Sale" advertisement in two or three issues will likely bring **quite a few sales.** The cost is only $1.50 an inch.

Keep at least a one-inch "For Sale" advertisement always before our readers.

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Bialadell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Liberty st, N Y
Norwalk Iron Works, Inc, Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio

Air Hose Couplers
Clark Co, W J, Salem, Ohio

Aluminum.
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 123 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston

Asphalt Machinery.
Cummer, F D. & Sons, Cleveland, O
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2822 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, 82 Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Boston Blower Co, Business st, Hyde Park, Mass
Buffalo Forge Co, Buffalo, N Y
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass

Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1808-C Park bldg, Pittsburg
Soltmann, E G, 123 E 23d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E.G, 123 E 23d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Walsh, W J, Holyoke, Mass

Bolt Clippers.
Helwig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Romaine Mfg Co, 120 N 6th st, Phila

Boots and Shoes.
Putman, H J, & Co, 38 Bridge sq, Minneapolis

Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)

Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md

Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vitr Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tomkins, Calvin, 120 Liberty st New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
Magirer, Henry, & Son, 422 E 23d st, New York
New York Fire Brick Co, 126th ave & 36th st, N Y
Syracuse Stoneware Co, Syracuse, N Y

Brick Bond
Union Brick Bond Co, Pittsburg, Pa

Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Aberthaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st. New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros, Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B&O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., Penn ave, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Havana Bridge Works, Montour Falls, N Y
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, T A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phœnix Bridge Co, Phœnixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co, Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Vaile & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works. Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York

Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago

Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

Bumping Posts.
McCord & Co, 1445 Old colony bldg, Chicago
Mechanical Mfg Co, Chicago

Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y

Burners (Oil.)
Hammel, C A 120 Fifth st, Los Angeles, Cal

Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 30-32 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward. Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G. Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 1 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Ezros Co, Chas, Bayonne, N J
Fairbanks, Morse & Co, Chicago
Ingoldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 159 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steuben, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel. Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany, N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 25 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 253 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co. Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Copiay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Giens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Heidelberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway, New York
Lehigh Portland Cement Co, Allentown, Pa
Sinclair & Bacon, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 172 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 32 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Sturtevant Mill Co, 108 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
Steubner, G L, 175 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co, Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Concrete Steel Construction
Aberthaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Turner Cons. Co, 11 Broadway, N Y

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B, Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 26 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1208 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 12-21 Park Row bldg, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Priest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, Inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Wickes Bros, 95 Liberty st, New York

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 58 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st. Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote W'ks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Lowe Wrecking & Diving Co, 2 Coenties slip, N Y

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co. F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, Co, San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Foundry & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills).

Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles-Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co. Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Boston Engineering Agency, 7 Water st, Boston
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland, O
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 31 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 360 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 135th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Ill
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach co, 348 N. Halsted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas. & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly, O S. Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

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Excavators and Excavating Machinery (see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co. Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co. Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 916 Duquesne Way, Pittsburg

Faucets.
Campbell, J B. Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Patterson, Frank L., & Co, 25 Church st, New York
Robertson, Jas. L., & Sons, 192 Fulton st, New York
Stilwell-Bierce & Smith-Valle Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
Jones National Fence Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Filler. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Valle Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jacks n Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B. & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L., & Sons, 92 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Bromley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 121 Liberty st, New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y
Syracuse Stoneware Co, Syracuse, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 508 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 326 Pearl st, Berlin, Wis

Governors (Water Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L., & Sons, 192 Fulton st, New York

Greenhouses.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co Geo V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 503 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 255 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L. & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co. 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Alteneder, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st, Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 18. Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridge av, Phila
Hettenschied Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G. 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co. 300-302 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 620 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 42d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 234 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 4th st. Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co, Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks.
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Yuzzolino, N, 73 Mulberry st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st. New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand.)
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co, 1531 Monadnock blk Chicago
Contractors' Plant Depot, 29 William st, New York
Donaldson & Newton, 421 Chestnut st, Philadelphia
Driscoll, J. T., McCormick bldg, Chicago
Efros Co, Chas. Bayonne, N J
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O K, 39 Cortlandt st, New York
Young, E R, & Sons, Titusville, Pa

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 308 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg, Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 706 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Valle Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West ave, Long Island City, N

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L., & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 59 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 45 Woodland ave, Cleveland, O
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York

Paint (Cold Water).
Bird & Co, J A & Son, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N

Patterns (Wood).
Balkwill Pattern Works, 970 Hamilton st. Cleveland

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick, J K, & Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Talleyday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O
Syracuse Stoneware Co, Syracuse, N Y

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila P
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich
Low Wrecking & Diving Co, 2 Coenties Slip, N Y

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

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Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son Co, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 150 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth F L & Co, 66 Maiden lane, New York
West Pulverising Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendalville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 160 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 66-68 Broad st, New York

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 200 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co Cotton Exch bldg, N Y

Rails (Relaying).
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 302 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel).
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 100 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 15 Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst. of Tech. Chicago
Penn. Corres. Schools, Hamilton bldg. Pittsburg
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Shuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Columbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J
Vaile & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Struthers-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Walsh, W J, Holyoke, Mass
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C. R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton.
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Cornersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 406 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co, Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

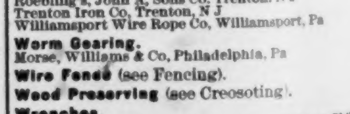
Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila



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